

GOVERNMENT OF INDIA

DEPARTMENT OF ARCHAEOLOGY

**CENTRAL ARCHAEOLOGICAL
LIBRARY**

CALL No. 891.0959105/J.B.R.S.
25/84

D.G.A. 79.



THE
GLASS PALACE CHRONICLE
OF THE
KINGS OF BURMA
(HMANNAN YAZAWIN).

TRANSLATED BY
PE MAUNG TIN

AND
G. H. LUCE,

PUBLISHED BY THE OXFORD UNIVERSITY PRESS
FOR THE TEXT PUBLICATION FUND OF THE BURMA RESEARCH SOCIETY

The *Glass Palace Chronicle*, the most important of the native histories of Burma, was compiled in 1829, by a committee of scholars appointed by King Bagyidaw of Burma, who based their work on earlier chronicles, inscriptions, and other ancient records.

The present translation omits the first two parts of the Chronicle, as they merely retell the story of Buddhism and of the Buddhist kings of Ancient India, and begins at the point where the story moves to Burma. The third part opens with the history of the three Burmese kingdoms of Tagaung, Tharehkittara and Pagan. The fourth and fifth parts of the present volume cover perhaps the most interesting period of Burmese history, that of the kingdom of Pagan—the city on the middle Irrawaddy, a hundred miles below Mandalay, whose noble temples and vast ruins still astonish visitors. The volume closes with the fall of Pagan (1287 A.D.), consequent on the invasion of Burma by the armies of Khublai Khan. It is hoped that the response to this publication will justify the Burma Research Society in continuing the translation and adding notes in subsequent volumes.

ORDER FORM FOR MEMBERS ONLY.

**Special Reduced Price for Members of the B. R. S. Rs. 5 per copy
(in paper covers).**

To

**THE HONORARY SECRETARY,
Burma Research Society,
(Bernard Free Library), RANGOON.**

DEAR SIR,

I am a member of the Burma Research Society. Please send
me.....^{copy}_{copies} of the translation of the Glass Palace Chronicle
V. P. P.,
for which I enclose the sum of Rs.....

Name.....

Designation.....

Address.....

JOURNAL OF THE BURMA RESEARCH SOCIETY.

Volume XVI, Part I.

CONTENTS.

PAGE.

Word-making and Word-taking: Some Reflections on Modern Burmese, by J. S. Furnivall	1
Dom Martin, 1606—1643: The First Burman to visit Europe, by M. S. Collis and San Shwe Bu	11
Journal du Voyage De Siam fait on 1685-1686, par M. L'Abbe de Choisy, by J. Stuart	24
My Rambles among the Ruins of the Golden City of Myauk-U, Chapters VI, VII, by San Baw U	36
A Marriage Custom among the Ahkas and Myinchas, by Rev. Ba Te	43
The Wisdom of the Ancients, by Maung Tha Kin	46
More About Phaulkon, by J. S. F.	58
Art and Mysticism (Review of Dr. Ba Han's William Blake: His Mysticism), by J. S. F.	68
Proceedings	71
Additions to the Library	88
List of Members (December 31st, 1925)	90

891.0959105
J. B. R. S. 25184

CENTRAL ARCHAEOLOGICAL
LIBRARY, NEW DELHI.

Acc. No. 25184
Date..... 14.1.57
Call No. 891.05 / J.B.R-S
891.095 9105 / J.B.R-S

THE BURMA RESEARCH SOCIETY

(FOUNDED 1910.)

*For the Study and Encouragement of Arts, Science, History and Literature
in relation to Burma.*

PATRON.

HIS EXCELLENCY SIR SPENCER HARCOURT BUTLER,
G.C.I.E., K.C.S.I., I.C.S.

COUNCIL.

President.

THE HON'BLE MR. JUSTICE U BA, B.A.*

Vice-Presidents.

U SHWE ZAN AUNG, A.T.M., K.S.M.
THE HON'BLE U MAY OUNG, M.A., LL.M.
C.W. DUNN, ESQ. C.I.E., I.C.S.

Honorary Secretary and Treasurer.

A. CASSIM, ESQ., B.A.*

Honorary Editors and Librarians.

PROF. PE MAUNG TIN, M.A., B. Litt., I.E.S.*
PROF. F. J. MEGGITT, M.Sc., Ph.D., I.E.S.*

Executive Committee.

U PO BYU	PROF. D. G. E. HALL, I.E.S.
U TIN, K.S.M., A.T.M.	S. G. GRANTHAM, ESQ., I.C.S.*
L. F. TAYLOR, ESQ., M.A., I.E.S.	W. G. FRASER, ESQ., I.E.S.
DR. G. R. T. ROSS, I.E.S.	J. S. FURNIVALL, ESQ.
U PO SEIN, A.T.M.*	M. S. COLLIS, ESQ., I.C.S.
U TUN PE, M.A.*	D. B. PETCH, ESQ., I.C.S.
D. J. SLOSS, ESQ., M.A.	U SET, B.A.
	PROF. W. N. ELGOOD, I.E.S.

General Committee.

J. L. MCCALLUM, ESQ., I.C.S.	R. C. J. SWINHOE, ESQ.
U THEIN	SAN SHWE BU, ESQ.
MAJOR C. M. ENRIQUEZ	CH. DUROISELLE, ESQ., M.A.
U KYAW DUN, K.S.M.	U THA TUN AUNG, B.A.
TAW SEIN KO, ESQ., C.I.E.	J. A. STEWART, ESQ., I.C.S.
H. F. SEARLE, ESQ., I.C.S.	CAPT. G. H. M. MEDD.
DR. O. HANSON.	U THA KIN.
	G. E. HARVEY, ESQ., I.C.S.

*Members of the Sub-Committee.

WORD-MAKING AND WORD-TAKING.

SOME REFLECTIONS ON MODERN BURMESE.

It is a great pleasure to be present once again at a meeting of our Society. But the pleasure is qualified by the fact that I have undertaken to deliver a lecture, especially because I must start with a confession that I know very little about the subject matter. I hope, therefore, that right from the beginning you will understand that I am here rather in the hope of gaining than of imparting information.

I wish to consider a few aspects of modern Burmese. I cannot claim to have made a serious study of the subject and can only venture to offer a few discursive observations, chiefly in the hope that they may suggest profitable lines of enquiry to those interested in the language. They have moreover at least this title to your consideration, that they relate to a subject of immediate practical importance in this country. Some of you, in childhood, may have played the fascinating game of word-making and word-taking. I know no game so well adapted to teach children spelling and to enlarge their vocabulary. This is how it is played. A certain number of card-board letters are distributed to each player, and out of these he has to make as many words as possible. He may, for example, have the three letters C, A and T and, by putting them together, makes the word *cat*. Another player who has an "R" can take over the word *cat* and make it into *cart*; then another one with an "E" may make it into *crate*, and still another adds R, changing it to *crater*, some one else by adding "E" and "N" changes it to *Recreant*, and probably it ends up as *Recreation*. The winner is the one who makes most words. That is a children's game, but it is entertaining and instructive. In another form every one of us, consciously or unconsciously and all of us collectively, play the same game throughout our lives. Every progressive nation, and Burma more than most, is continually enlarging its vocabulary both by word-making and word-taking. In two respects this process resembles the game that children play. Not only do the new words often assume strange forms, but the winning nation is that which makes or takes most words.

There are only these two methods in which a language grows. One is by making new words out of material already existing in the common stock; the other is by taking words from another language. Both these processes, but especially perhaps the latter, are very prevalent just now in Burma. This has already been brought to the notice of the Society by our learned Joint Editor, Professor Pe Maung Tin, in his "*Note on the Development of the Burmese language*" published in our Journal for April, 1924. He remarks that "the problem is receiving national

attention; and native writers, roused by the awakening of the national spirit, are finding suitable terms for the new ideas imported from the west". We have all of us, I suppose, appreciated this vaguely for a long time, but for my part I must confess that I had not realised how far and how fast it is proceeding until quite recently. In the spoken language one is accustomed to encountering Anglicisms, and for some years we have heard on the football field shouts of အောက်မြီ and မိုးသေးဘူး. Sometimes the Burmese equivalent of an English word is rather puzzling. I can remember, for example, being stumped by the word အတွန် which the lad who used it tried to make clearer by saying အတွန်ငွေ. It was a long time, however before I realised that he was talking about an advance of money. Still, in the colloquial, one can be prepared for anything. But it came to me rather with a shock the other day when in a short Burmese novel of 50 pages ဒေါ်ရောင် by နိဒ္ဒေသိက I found 9 or 10 English words most of which are hardly yet at Burmese costume. I quote these, with their context, in Appendix I. I said 9 or 10 and I have only given 9. There was another phrase which puzzled me completely ဒီကနေ့တော့ (ပါး) ကလေးကို.... You will notice that (ပါး) like (ဆိုစာ) is in brackets and I took it for another English word that I could not identify. Reference, however, to our Professor of Oriental Studies resulted in the explanation that it was merely the ordinary word (ပါး) *cheek* ဒီကနေ့တော့ ပါးကလေးကို ချလိမ့်မည်. But why the author saw fit to include it in brackets I cannot say. The use of English words seem rather characteristic of this writer's style. You do not find them used to the same extent in novels by P. Monin and Shweleikpya who, I understand, are the favourite authors of the present day. But among the advertisements published in the same book I noticed ကျော့ပုဒ်မင်္ဂလာ တင်ဂျီ-ကျော့ဘွဲ့ and another 'English' word that I have never met in English တင်ဂျီလင်. There was also the horrible word ဟိုင်းဆိုလင်, *violin*, for which I should have thought တေး would be a sufficiently close equivalent. You will notice that, in the words of Pe Maung Tin, this native writer "roused by the awakening of the national spirit" is doing his best to find suitable Burmese for new ideas imported from the west. But I do not know how many will feel that he has been successful.

Some of these words taken individually have an interesting pedigree. Banjolin has, possibly, an English equivalent indicating a cross between a banjo and a mandolin. Banjo itself has travelled about a good deal. It represents the Burmese version of the English word *banjo* that the Americans took over with the instrument from negro slaves who could approximate no more closely to *bandurria*, a Spanish word ultimately derived from the Greek *pandoura*. ဆိုစာ again comes from the Arabic *suffah*, a bench that was probably not unlike the ordinary Burmese ဆင်. Still these derivations have very little bearing on Burmese. If we can trace a Burmese word back to English or any other language we can well afford to leave its previous history to the philologists of that language. Let us consider then a few words that have been taken over, either directly or indirectly from languages other than English. We have in Burmese another Arabic word အရင် that is more easily recognisable

if pronounced as it is written *arak*, which brings out its affinity with the Arabic *araq* and the English word *arrack*, independently taken from the same source. This word may have reached Burma from the Malay but in view of the early predominance of Arab traders in the far east it may well have been taken directly or at least through the Talaing *areak*. Malay words seem less common in Burmese than might be expected. The only word I know that can be attributed to this source is ကြိတ် given by Stevenson as the Burmese word for the Malay *kris*; although I have never met the term myself, even in Mergui where one would naturally expect to find it. Another word that may have been brought in by the early traders is သတ္တဝါ which Stevenson conjecturally derives from the Persian *suglat*. Then there is ဓပုဒ် of Spanish origin, which I found in the စတုတ္ထဓပုဒ် and should not have understood, except for a marginal comment by a later writer explaining it as ဘုံး *bomb*. Here again English and Burmese have borrowed the same word independently. Another word that both languages have taken over is သံသန်, attributed by Stevenson to a Chinese origin.

The mention of *sampan* reminds me of a word used in the Delta for a small open boat with a flat bottom that is rowed in the European fashion. This is known as ဆာတ်တု which is the kind of word that a Burman might easily make out of the French *bateau*, and the fact it is rowed in European fashion supports the derivation. This conjecture is strengthened by the evidence of Symes in his Embassy to Ava who tells us that in 1795, when ship-building was an important industry in Rangoon, "all the models came from France" (Symes "Mission to Ava" 1800, p. 459) Bengali traders have furnished the Burmese vocabulary with the word ဆာတ် for a ship's mate and other words that have been attributed to Bengali are ကုတ် ကိုတ် pronounced ဂိတ် *a yard*, ချို *wheat* and ဝတ္တ *a grant of land*. Here, by the way, we have in common use a Bengali English compound to form one Burmese word ခရီးဝတ္တ. Some Indian words such as ခေတိဝိ bankrupt and နာမိ bailiff perhaps date from the earliest days of the first annexation when in Aracan some of the records, both civil and criminal, were written in Persian. According to Saya Thein, the word for a Railway Station ဘူတာရုံ also has an Indian origin, from godown, and he claims, I believe, personally to have observed the acclimatisation of this word.

There must, of course, be many other words derived from the languages of people with whom the Burmese have come into contact. On the whole, however, until quite recently Burmans saw very little of the outer world so that they have not had much chance to assimilate new words and, for that matter, have rarely had new ideas calling for the creation of new words. The only people with whom they have been in close contact are the Talaings and Siamese and various hill tribes. I do not know of any Burmese words taken from the Siamese. It is a different matter, however, as regards Talaing. Both languages have many words in common and it would be difficult to say which language has borrowed

from the other. There is, however, a presumption that trading terms, and probably military terms, ordinarily reached Burmese through the Talaings who, from their position on the coast, were more in contact with foreigners. Probably many words common both to Burmese and Talaing were taken from the Pali and though the genius of the Burmese language which gives new formations, so far as possible, a monosyllabic appearance, leads to great difficulty in tracing the origin of words there can be no doubt that Pali is responsible for a very large proportion of the Burmese vocabulary.

But with Pali we reach the second branch of the subject. We have considered a few illustrations of word-taking. Many words from Pali have become so Burmanised that they must be regarded rather as illustrations of word-making. Here, however, I must go cautiously for I can only claim an amateur's acquaintance with Burmese and have forgotten the little Pali that I at one time endeavoured to acquire. Speaking as an amateur, however, some of these words have interested me as appearing in Burmese in two forms and thus corresponding with the definition of a doublet as a pair of words with different significance but of the same derivation. One notable feature of the doublet in Burmese however, is that in many cases the Pali word retains its original form, although often used in a specialised sense. This gives the doublet a practical value as an aid towards tracing the origin of words. If certain monosyllables can with a high degree of probability be referred to certain Pali words which may superficially bear little resemblance to them, we have a hint that may help us towards tracing the origin of other Burmese words in Pali, and an accumulation of examples may enable us to lay down rules for the phonetic changes undergone by Pali words when acclimatised in Burmese. For example we have မိဝ် and မေတ္တာမေဝ် (sometimes spelt မိဝ်) and မေတ္တ. Similarly we have မိဝ် from citta, မိဝ် from sima, and မိဝ် from sippa. These examples suggest a possible connection between မိဝ် title of a book, or address of a letter, and မေတ္တာ and, according to Maung Po Hla in his Student's Guide to Burmese spelling, မိဝ် should be written မိဝ် if the ordinary spelling were not sanctioned by long usage. In appendix I! I give a short list of such doublets.

Similarly among words taken from English some retain—approximately—their original pronunciation, as, for example ယူနိုက်တက်, while others are modified to sound like words of native origin as with ဘိုအုပ် suggesting a connection with စာအုပ်. I have heard ထိုင် for taxi, and မီးချပ် I take to be a Burmanised form of matches. Some times you find doublets. Stevenson for example gives ဗောလီ as the general term for ball although nowadays ဗောလီ rarely if ever means anything but billiards while ဘောလုံး has become the usual term for ball. Despite these various ways of constructing words partly or wholly out of foreign elements, the ordinary method of word formation is and will, I imagine, always be to build up compounds such as လက်ကိုင်ပစ္စည်းကိရိယာပစ္စည်းကိရိယာပစ္စည်း။

Here at length we reach the aspect of our subject that is of practical importance at the present day. There can be little doubt that in Burma

we are on the threshold of a conflict between those who advocate word-making and those who advocate word-taking. Are we going to follow the principle illustrated in ဓာတ်ရထား for tram and မီးရထား for train or the alternative method of adopting the original word as မော်တော်ကား our motor car. For example it will shortly have to be settled whether we are to say ဘရော့ဒ်ကပ် *broadcast* or some such word as အသံကြွသည့် or အသံလွှင့်သည့်. Burma is fortunate in having Pali to fall back on : သမ္မတ္တ for republic and လေရန်ပြန် for aeroplane were acclimatized in Burmese before they were born. For abstract ideas it is probable that a Pali word will be used whenever one is available. On re-introducing the Patama Byan Examination the Local Government expressed a hope that it might be the means of forming in the future the quarry from which may be hewn the terms required for the expression of modern ideas in law, medicine, science and philosophy for which the Burmese language by itself is inadequate. Stevenson, in the preface to his edition of Judson's Dictionary, commenting on this aspiration, suggests that "a felicitous blending of both languages will probably be found adequate for this purpose, as again and again one is struck by the neat and pithy phrases of the combined languages. For instance, the concise apophthegm စာစောစောတံမှဝါယောကြံ contain a great scientific fact and illustrates the cause of land and sea breezes in a nut shell".

But when Messrs. Duroiselle, Stewart and Walsh made the first serious attempt to use Burmese as a medium for modern science in the pamphlet issued as Occasional Paper No. 2 of the Agricultural Department they found that, as a rule, Pali compounds were useless (J. B. R. S. Vol. VI p. 22). In reviewing this pamphlet, U Shwe Zan Aung stated his preference for Pali compounds over Burmese formations but in practice when he could find no generally accepted Burmese equivalent he advocated transliterations, *e. g.*

ပိုတသိယမ် ပိုတင်ဘီယမ်
ဆာလ်ဇျူရပ် ဆာလဇျူရိတ်

In the technical terms of modern science I doubt if transliteration can be avoided. Words so formed look ugly and barbarous in Burmese, but then many of them, when newly coined, were ugly and barbarous in English. Most Englishmen, however, and still more, I suppose, the majority of Burmans will prefer to restrict transliteration within the narrowest limit. The boycott of the university was a matter that roused angry passions, but I would wish that all parties would agree not only to boycott but to bury the word ယူနီတာရီယံ and for my part I shall never feel that a lad has been properly educated who says that he comes from a ပိုက်စတု or ကောလိပ်ကျောင်း. Such matters, however, can safely be left to the national good taste and common sense. The Burman novelist, as we have seen, can invent terms for the material goods that are imported from abroad; it should be possible, likewise, to invent terms for non-material conceptions. Unfortunately little has been done so far to invent new words of this kind. I remarked at the beginning

of this paper that the winning nations are those which invent most new words. This remark needs qualification. New words imply new wants. But the progress of a nation depends on the nature rather than on the number of its wants. When a Burman goes into one of the large stores to buy a shirt he must call it either a ရှပ် or an အင်္ကျီ and a fountain pen is either a ရှပ်စာတံဆိပ် or a ဖရင့်တံဆိပ်. Every time a novelty is imported to be sold in the shops and markets, the language is enriched with a new word. But there are no shops or markets for ideas. Perhaps the vernacular press is the nearest approach to such a market, but its range is limited. To the translation of non-material conceptions there are obstacles other than the difficulty of inventing appropriate terms; it is necessary to find suitable books to translate and sufficient funds to remunerate the translators. But all these difficulties would disappear if we could create a market, if we could induce people to demand and buy and read the books. Given such a demand it would be easy enough to find people capable of inventing possible equivalents in Burmese for all conceivable subtleties of thought, and we could leave the best words to survive by natural selection.

But there are one or two subordinate though very important aspects of the problem that I should like to touch on. One is the question of punctuation. Traditionally, as you are all aware, Burmese writing continues without any break between the words and with only an infrequent and rather haphazard use of || the နှစ်ဦး and | the နှစ်ငယ်. Even the first popular novel, *စောစောစော* written in 1904 was a solid mass of print broken at rare intervals into paragraphs. To my mind, one of the most striking features in the growth of the language since then has been the great advance in this respect. In a modern novel the following signs are freely used:—

|| || () — | ||

while phrases are spaced where in English one would ordinarily require a comma. There is very little, then, to choose between facilities for punctuation in Burmese and English at present but the Burmese system needs to be standardised. Moreover, an insufficiency of stops is one of the defects of English and it is much to be desired that Burmese should go on better than English in this respect.

This reform has made Burmese infinitely easier to read. The educated Burman no longer slowly puzzles out each word, reading aloud with little reference to the meaning, and pausing every now and then to see how far what he has been reading makes good sense. With the page logically spaced he can read Burmese almost if not quick as readily as an Englishman can read English, provided however that the Englishman reads every word. But then an Englishman very rarely does read every word; in poetry or in prose that has a rhythm worth following he ought to do so but when he reads merely for the sense it is sufficient for him to glance over the page. That is possible in English because a capital letter is used to begin each sentence and because the small letters are readily distinguishable. But in Burmese the absence of capitals and the

uniformity of the characters render it almost necessary to read every word. Here again we can see what may be the earliest stage of a most desirable reform. Recent publications often show differentiated characters and a bolder type in the titles of works ; if this process can be adopted for the body of the text the reader will be saved much time and trouble and both reader and printer will profit at the expense of the people who import spectacles.

I feel that I should apologise to those present for having asked them to follow me along a train of random thoughts suggested by the chance reading of a Burmese novel. As I remarked at the beginning, I am only an amateur, and I fear the paper has not reached the high standard of scholarship on which the Society is beginning to insist and which, fortunately, it is able to command. But I have one practical suggestion to lay before you. As you are aware, the Society is interested in the preparation of a new Burmese Dictionary. Stevenson tells us in the preface to his great work how greatly he was disappointed in his hope of throwing new light on Burmese etymology. No great advance in that direction can be made until we know more about old Burmese. But unless we make a beginning we shall make no advance at all. I would like to suggest, then, that members should jot down from time to time, etymological notes together with such authority as they can produce to support their conjectures, and submit these conjectural derivations to the Society. Some of them might and doubtless would be rather fanciful. But some would be sound and helpful. Take for example the word ဝေပေဝ်. This might easily be thought a recent coinage from English during the late war, but its occurrence in the ဝေပေဝ်စာပေဝ် demonstrates that it was originally taken from the Portuguese. A Committee could be appointed to examine such derivations and to publish any that could provisionally be accepted. In Appendix III to this paper I have made a start with a few conjectures. If the foregoing suggestion be approved all that will be needed is for this list to be kept up to date by new additions. The editor of the proposed dictionary would then be in a much better position than Stevenson was in respect of derivations.

In conclusion then I would like to suggest that a small committee be appointed to encourage etymological research, to examine any conjectural derivations brought before it, and periodically to publish in our Journal lists of words with their provisional derivations and words with interesting analogies in other languages.

J. S. FURNIVALL.

Appendix I. English words in ခပ်းရမက်

- p. 3 စပွေပျီတဲကလေးကိုတီးလိုက်လေ၍
 p. 12 (ဆိုပါ) ကုလားလိုင်၍ထိုင်သည်
 p. 15 ဒုတ်ကောက်ကိုစတိုင်ကျကျထောက်၍
 p. 19 ဒီကခတ်ပုံပိုတိုကလေးယူထားလိုက်ပါ
 p. 24 စပွေပျီမှာ ဖေါင်တိန်ရှိတယ်
 p. 31 တယ်လီဖုန်းဖြင့်စကားပြောလိုက်ပါ
 p. 33 ခေဝါ-ခေဗီ။မေမဒီတို့ကတိုင်စကုတ်နှင့်
 Tea shop, တွဲကာတွဲကာအပျော်ဆက်ကြလေ၍
 ၄-၅-မိနစ်။
 p. 15 ဒီကနေ့တော့ (ပါး) ကလေးကို.....
 Adv. ကျောပျားမင်ဒိုလင်း၊ ဘင်ဂျီ၊ ဘင်ဂျီလင်း၊
 တွိုင်အိုလင်း။

Appendix II. Some Doublets.

အပုဒ်	....	....	....	....	See ပုဒ်မ
အရုပ်	.... form	ရူပ	.... appearance	ရူပါရုံ	
အုပ်	.... cover	ဥက္ကဋ္ဌ	.... chief	ဥက္ကဋ္ဌလူကြီး	
ဥစ္စာ	.... a thing	ဥက္ကဋ္ဌစောင့်	.... guardian	now spelt ဥစ္စာစောင့်	
ကပ်	.... to offer	ကပ္ပိယ	.... spirit		
ကပ်	.... an era	ကပ္ပိယ	.... attend	ကပ္ပိယဒါယကာ	
ကံ	.... fate, deed	ကပ္ပါ	.... universe	pron. and also spelt ကပ္ပ	
		ကမ္မ	.... fate, deeds	also from Sanskrit	
				ကြမ္မာ in the phrase	
ခေတ်[ခိတ်]	.... time	ခေတ္တ	.... temporarily	ကံကြမ္မာ	
စက်	.... machinery	စက္က	.... setkya		
			weapon		
တကာ	.... supporter	ဒါယကာ	.... supporter		
ပစ္စည်း	.... things	ပစ္စယာ	.... things		
ပုဒ်မ	.... section, stop	ပါဒ	.... verse, foot		
မာန်	.... pride	မာန	.... pride		
မိတ်	.... love, affection	မေတ္တာ	.... benevolence		
မုတ်	.... an archway	မုတ္တာ	.... an old pagoda	မုတ္တာ Ordinarily a pagoda with a cave, hence old pagoda. All pagodas termed ရွှေမုတ္တာ are attributed to Dhamma Thawka (Asoka) and vice versa.	
ဗလီ	.... billiards	ဘောလုံး	.... ball	from English-ball	

Appendix III.

Some Conjectural Derivations.

Burmese word.	Probable source.	Equivalent original.	Remarks.
အထွန်	English	Advance	only heard in colloquial
အပုန်	Pali	Pada	Cf. ပါဒ
အရက်	Arab	Araq	Cf. English arrack, Talaing areak
အရပ်	Pali	Rūpa	Cf. ရူပါ
အယ်ဒီတာ	English	Editor	
အာလူး	Hind.		Potato (Potato chop အာလူချပ်)
အောက်	English	Out	Used in football for out i.e. of play
ကပ်	Pali		ကပ္ပိယ
ကပ်	Pali		ကပ္ပာ
ကလောင် (တံ)	Hind.		Pen (holder)
ကြိတ်	Malay		Kris (? This would not seem to have been heard of since Stevenson)
ကံ	Pali	Kamma	
ကူလီ	Hind.		Coolie
ကော်လိတ်	English	College	
(ကျောင်း)			
ကိုက် (pron. ရိတ်)	Hind.		Yard
ခေတ်	Pali		ခေတ္တ
ချေယာဇင်း	English	Chairman	
ဂရန်	English	Grant	ပရန်ပတ္တ
ဂရာနတ်	Span.	Granada	from Portuguse Vugares
ဂေါ်ရာ	Hind.		White, ghora
ဂိုး	English	Goal	Foot Ball
ဂျာနယ်	English	Journal	
ဂျုံ	Hind.		Wheat
စတိုင်	English	Style	---
(ဆိုဖါ)	English	Sofa	From Arabic <i>suffah</i> ဆုတ်
စိတ်	Pali	Citta	
တယ်လီဖုန်း	English	Telephone.	
တိုင်စီး	English	Taxi	Rare
ဒေါလီ	Hind		Bankrupt
နာဗီ	Hind	Nazir	Bailiff
ပစ္စည်း	Pali		ပစ္စယာ
ပင်ဂျို	English	Banjo	
ပတ္တာ	Hind		ပတ္တာဝရန်
ဖလင်း	English	Film	Kinema
ဖေါင်တီန့်	English		Fountain (pen)
ဖိုတို	English	Photo	

Appendix III—Continued.

Burmese words.	Probable source.	Equivalent original.	Remarks.
ဗလီ	English	....	Ball
ဘင်း	English	....	Band
ဘိုင်စကုပ်	English	Bioscope.	....
ဘူဝိုင်း	English	Violin	....
ဘောက်တူ	French	....	bateau
ဘေလပ်	English	Bailiff	....
ဘူတာရုံ	English	....	godown
ဘိုအုပ်	English	Book	....
ဘဲ	English	Bell	....
မိတ်	Pali	....	မေတ္တ
မာန်	Pali	....	မာန
မုတ်	Pali	....	မုဋ္ဌာ
မင်းဂိုလင်	English	Mandoline	....
မာယိန်	Hind.	....	Mate
မောတောကား	English	Motor car	....
မဂ္ဂဇင်း	English	Magazine	....
လိပ်	Pali	....	လက္ခဏာ
ရပ်	Pali	....	ရာဇ
သိပ်	Pali	....	Sima
သက္ကလပ်	Persian	....	Suqlat
သံပန်	Chinese	....	Sampan
ယူနီဘာစတေ	English	University.	....
ဟိုင်းစကူး	English	High school	....
ဝါရံတာ	English	Verandah	....
လန်ချား	....	....	Chinese ?
ရှပ်	English	Shop	....
ရှပ်	English	Shirt	....
သမ္မန်စာ	English	Summons	....

DOM MARTIN 1606-1643.

The first Burman to visit Europe.

BY

M. S. COLLIS

IN COLLABORATION WITH SAN SHWE BU.

It is the object of this paper to explain who Dom Martin was, why as an Arakanese he had a Portuguese name and how it happened that he paid a visit to Portugal. The story is extraordinary and romantic, but were I to plunge into it without some sort of a preliminary summary of the political situation in the Bay of Bengal at the beginning of the seventeenth century, the result would be unintelligible, a flux of kings, priests, noblemen and pirates, the Arakanese fortuitously appearing here, the Moghul there, the Portuguese everywhere, the whole having the complexion of a cinema drama. In consequence I must trespass upon your patience and preface as briefly as possible his adventures with an historical survey.

For the purpose of this view, I select the year 1610 A. D. Readers of my previous studies in Arakanese history will be aware that in that year the Arakanese empire was at the height of its destiny. Razagri was king and his territory stretched from the eastern mouths of the Ganges delta to the delta of the Irrawaddy. In his employ or under his protection were certain groups of Portuguese. Of these, one consisted of the Portuguese mercenaries in his home army and navy, chiefly gunners and engineers; another of traders who had been allowed to build a settlement at Dianga, near the city of Chittagong, on condition that they helped to defend the Chittagong frontier against the Moghul.

The Moghuls had by 1610 taken over the administration of Bengal and in consequence their territory marched with Chittagong. They were Razagri's most serious pre-occupation. Portuguese also lived under their protection and at Hugli, on the river of that name, maintained a trading settlement. Besides these groups of Portuguese, the mercenaries in Arakan, the traders at Dianga and at Hugli, there was in the Bay a further group of Portuguese who lived at Sandwip Island within some thirty miles of the Chittagong river. As this group plays an important part in this history, it must be described in some detail.

King of this island was the famous pirate, Gonsalves Tibau. This man had come out to the East in 1605 as a soldier. In 1607 he had accumulated sufficient money to enable him to purchase a small ship, which he laded with salt and in which he sailed to Dianga to trade. By a piece of bad luck he happened to put in there on the very day that Razagri was punishing the Portuguese for some treachery or other. As a result, his ship was confiscated and his two years' savings were lost. Completely

ruined, he gathered round him others who like himself had been reduced to poverty, turned pirate and preyed on the Arakan coast with such success that by 1609 he had a well equipped sea force of 40 sail and 400 men. With this he attacked the island of Sandwip, then occupied by one of the Moghul's men, and took it, proclaiming himself King. It was a rich island inhabited by Hindus. Moreover being situated on the mouth of the Megna, it enabled him to erect custom houses and collect dues from trading ships. Piratical excursions were also undertaken into the Delta rivers of the vicinity. By these means he soon acquired funds and is stated in 1610, the date of this survey, to have had a force of a thousand Portuguese and eighty ships with cannon. It must be insisted that Tibau's sovereignty was real. The Viceroy of Goa had no control nor aspired to any control over him. By 1610 he had become so prominent and important a figure in the Bay that Razagri, who was contemplating a brush with the Moghul in the matter of a frontier dispute, invited Tibau to co-operate with him on the naval side. It is sufficient for the purpose of this paper to say that Tibau, to whom the control of the Arakanese fleet had been given, turned round at the last moment, allowed Razagri's land force to be taken at a disadvantage and routed by the Moghul, himself seized the Arakanese fleet, murdered its officers, enslaved its crews and in the general confusion that followed harried the Arakan coast. Razagri returned to Mrauk-U and we can sympathise with him if he took the view that Gonsalves Tibau was the most underhand black villain that any gentleman could be fool enough to trust.

Such is a summary of the political situation in the Bay in 1610 and with so much clear in the mind's eye it is possible to advance upon the story of the subject of this paper.

In 1610 Razagri had appointed his younger son, Min Mangri, Viceroy of Chittagong. A son or a brother of the Arakanese kings was usually posted to that charge and there was nothing unusual in Razagri's choice except that Min Mangri was not on good terms with the heir to the throne, Min Khamaung his elder brother. This latter was a wild young man. As I have noted elsewhere, in association with the poet Ugga Byan he attempted three times to assassinate his father. Min Mangri urged, probably with much truth, that an individual upon whom family ties lay so lightly, would make short work of him, his detested brother, when he came to the throne. At the very least Min Mangri saw himself deprived of his Viceroyalty. He therefore cast about for an ally, some one who would lend him support when the inevitable blow fell, some one who would perhaps be strong enough not only to save him from his brother but to put him in his brother's place. The obvious person to fulfil these requirements was the pirate-king Gonsalves Tibau. Min Mangri therefore sent an embassy to him, suggesting a treaty of alliance. The proposal was admirably suited to the immediate needs of the Prince of Sandwip. That worthy, after his seizure of the Arakanese fleet and his harrying of the coast of Arakan, was in the worst odour at Mrauk-U. Min Mangri's proposal was in effect to provide him with a strong friend in the

enemy's camp, one to protect him from the vengeance he feared and who with good luck might facilitate further lucrative raids. In short he accepted the offer. It was decided to seal it by the marriage of Min Mangri's daughter with Tibau's son. Min Mangri had three children, two daughters and a son. In this year of 1610 his son was four years old. It was this son who afterwards became known as Dom Martin and went to Europe. But I must not anticipate. We are now engaged in describing the nuptials of his elder sister. It was agreed that on her marriage she should take the Catholic faith, for Tibau, though a ruffian, was very careful to observe the forms of his religion. Manrique, whom we follow here, states that in this affair the swashbuckler derived his greatest satisfaction from the feeling that he was the divine instrument in saving a soul from damnation. This point need not be pressed. Suffice it to say that he selected as emissary to Chittagong Father Rafael of Santa Monica. This friar was to convert the princess to Catholicism and afterwards conduct her to Sandwip. Father Rafael spoke Arakanese fluently. He was also much loved by the country people, to whom he appeared a saint. When he came to a village, he used to paint a red cross on the foreheads of the children who pressed up to kiss his hand. The parents recognising this as some holy symbol allowed it to remain until obliterated by the weather. Such is the amiable picture of the ecclesiastic sent by the pirate-king of Sandwip to further his political machinations. That Father Rafael was a genuine holy man is borne out by the fact that Gonsalves found it very difficult to make him fall in with his ideas of how a Portuguese envoy on so important a mission should conduct himself. The Religious would have much preferred to stroll into the city of Chittagong incognito or recognised only by the poor and the children. This did not suit Tibau's conception of the entry of a matrimonial embassy. But when Father Rafael was asked to sail up the Chittagong river in a galley with flags flying and bands playing, he flatly refused. The pirate then resorted to a stratagem. Father Rafael started from Sandwip in a common sort of boat accompanied by one catechist. After he had left, ten of the best galleys, with embroidered awnings, musicians and well dressed gentlemen on the quarter deck, proceeded by another route and reached the Chittagong river before his arrival. There they waited, anchoring a little below the jetty. When his small boat came up, the captain of the galleys boarded it and delivered to the Father a letter from Gonsalves, begging him to enter Chittagong in state. Father Rafael was about to refuse, when he noticed that the jetty was crowded with the local nobility and gentry, that the bands had struck up, that the artillery had commenced the salute and that an immense mob behind was clamouring to know what the delay was about and why the Portuguese ships did not approach. Under the circumstances the Father perceived that his original intention of landing from his little boat had become ridiculous and yielding with the best grace possible, he went aboard the captain's galley. This was the signal for weighing anchor. The galleys advanced towards the jetty, the crew rowing with a calculated rhythm, the soldiers standing at the salute while the band played the martial airs of Portugal. Father

Rafael of Santa Monica landed. The waiting nobles received him with great ceremony; the City Magistrate was presented to him; in a body they moved in towards the street. There eleven elephants were waiting. The creature with the gilt howdah was for the Father. He was led up to it by the City Magistrate, who with the accepted gestures intimated that it was a present from the Viceroy. At the same time he gave the Father a parasol and told the elephant to kneel. The public reception on the jetty had been very trying for the Father though he had carried it through, returning salutation for salutation. But now the kneeling elephant and the gilded parasol overcame him. He could not be induced to mount. Thanking the City Magistrate profusely, he firmly said he could not parade through the City on that beast, and calling his catechist he began to walk. This made the Portuguese captains, for whom other elephants had been provided, look blank and it scandalised the City Magistrate. But there was nothing for it; all had to fall in on foot behind the Father and in this manner they made their way towards the palace. Yet the priest walking made a more vivid impression on the populace than had he been seated in a howdah; his action was in accordance with oriental ideas of how a holy man should behave; and the Viceroy coming to meet him as far as the gate on the third circumvallation, received him with the ceremonies prescribed for the reception of saints.

On entering the palace Father Rafael was introduced to the Viceroy's three children, the eldest being the princess whom he had first to convert. The youngest, as already mentioned, was a boy of four years old, the Viceroy's heir, grandson of King Razagri and the subject of this paper.

Father Rafael asked the princess whether of her own free will she wished to become a Christian. To this she replied with reserve that she desired first to hear expounded the Catholic dogmas and asked for time to listen to the Father's arguments. Whereupon the Viceroy summoned the Chief Eunuch and ordered him to admit the Father at any hour into the princess's apartments. "Thanks to this ample permission and to help from the above" explains Manrique, the Religious soon silenced the princess's objections. He continued however, to expound and now that he knew she was won over he had no scruples in describing in detail the tortures of the demand. "All those who die unbaptised are damned" he added. This frightened the princess, who burst into tears, asking him to baptise her at once. The Father pretended to be in no hurry and spoke of a baptism on her arrival at Sandwip. But she thinking of hell's flames and now thoroughly alarmed, cried "Supposing I was to die on the voyage!" and without an instant's delay told one of the girls to bring in a can of water, there and then forcing the Father to baptise her. A few days later Father Rafael conducted her to Sandwip where amid great rejoicings she was married to Tibau's son. This sealed the alliance between Min Mangri, Viceroy of Chittagong and Gonsalves Tibau, King of Sandwip. The former now felt that he could at least resist his brother Min Khamaung, if he was unable to supplant him. Tibau acquired tone and influence; increased his exactions on ships entering the Megna,

accumulated treasure and dreamed of a future sack, perhaps assisted by Min Mangri, of Mrauk-U itself.

When Razagri heard of this marriage and realised that his younger son was now allied with the ruffian who had treacherously seized his fleet, harried his coasts and who certainly must be supposed to harbour further designs against himself, he became uneasy. He had every reason to be. The Arakanese MS. histories relate that some eighteen months after the events described Min Mangri broke out into rebellion against his father, declaring himself an independent ruler, no doubt with the intention as the next step, of seizing with the assistance of Tibau the throne of Mrauk-U. So it happened that in 1612 Razagri sent an army against him under the Crown Prince Min Khamaung upon whom he could depend to operate with industry, as it was his own inheritance that was threatened. Chittagong was besieged. Min Mangri had secured from Gonsalves Tibau the services of four hundred Portuguese, who were placed at points of vantage on the walls. The leager dragged on. After four months the citizens were starving and lost heart. They sent a message to Min Khamaung to say that they would be glad to surrender the city to him but that this could not be effected, because the Portuguese forces had taken control of the operations. Certain efforts were then made to deflect the Portuguese. These failed and Min Khamaung ordered a more violent assault. The defence began to waver and to stiffen his men Min Mangri himself paraded the walls at the head of his staff. Unfortunately becoming involved in a mêlée, he was struck by a musket ball and mortally hurt. They carried him into the harem, after he had abjured the Portuguese to continue the defence, as the fall of the city would mean the murder of his children. These, perceiving that the Viceroy's death was imminent and that it would be followed, in spite of their efforts, by the surrender of the inhabitants of Chittagong to their liege lord, the King of Arakan, decided to apprise Gonsalves Tibau of these things and invite him to contrive some way of saving the young prince and his sister. Tibau received the intelligence, but he did not wish openly to be involved in the rescue of the children. His alliance with Min Mangri had not borne fruit and with the death of that Prince he would again be politically isolated. In such a position he did not desire the embarrassment of the Viceroy's heir, who, a child of six, without a state and proscribed could be of no service and might draw to him the inconvenient attack of the King of Arakan. On the contrary he had no wish to abandon the children, who were his son and daughter-in-law; moreover at some future date it might be convenient for him to have an heir to the Arakanese throne up his sleeve. The trusty friar, Father Rafael of Santa Monica, was therefore summoned, and directed to enter the beleaguered city and evacuate thence the young prince and his sister by artifice. The Father was ready enough to go as he scented two new converts. Disguised as a mendicant, he made an entry which was as private as his earlier arrival at that city had been public, and discovering himself to the Portuguese officers, was taken to the palace. The Chief Eunuch, acting on old instructions, made no difficulty about admitting him into the seraglio, where he found the

Viceroy in articulo mortis. This somewhat dashed the Father, for he had counted upon him being at that balance, where, sufficiently conscious to hear his exhortations, he would be sufficiently near his dissolutions to desire to comply with them. He hazarded indeed, a question or two, hinting at the consolations he was able to dispense. But the Prince was too far gone to apostosize. He died a pagan.

The women immediately set up a lament, but Father Rafael had sufficient presence of mind to compose them. It was essential, he pointed out, to keep for a while the Viceroy's death a secret. If the courtiers heard wailing, it would be over the city in a moment that Min Mangri was dead and the Arakanese would come pouring in before he could get the children away. The ladies saw the sense of this and the court dancing girls were ordered to sing their drollest ditties. Suspicion quieted, the Father made his preparations. That night taking the children he escaped with them down a subterranean passage to the sea, where a galley was waiting. Embarking on it, they held on past Sandwip till Hugli, the Portuguese settlement, was reached. Here within the Moghul dominion they were safe from their uncle's vengeance, safer than they would have been at Sandwip.

Meanwhile Min Khamaung had entered Chittagong without opposition and after attending his brother's funeral immediately called for his nephew and niece. When they were not forthcoming, he suspected Tibau, but it was not until afterwards that he learnt they had escaped to the Moghul. Foiled in this, he finished his business and returned to Mrauk-U, where later in the year he succeeded his father.

At Hugli the young prince began his education at the convent of St. Nicholas. The Prior reported his case to the Viceroy at Goa and it was decided on no account to press him while still a child to become a Catholic. But funds were made available to give him the training of a Portuguese nobleman. His sister was taken into the house of one of the leading citizens of the town and there cared for in the same manner. From six to thirteen the young prince remained in the convent. The Fathers selected for his perusal Catholic devotional works and histories of the heroes of Portugal. As time went on his reading of the lives of the saints and of the great men of Spain and Portugal, of the conquest of Peru and Mexico and of the fabulous voyages of the mariners, his close association with the leading gentlemen of Hugli and the personal tuition he received from his master, Father Antonio de San Vincente— all these influences combined to make him feel that to become himself a Portuguese nobleman was the most magnificent ambition in the world. He longed to emulate the great captains and he realised that if ever he was to enter their company he must first be enrolled as a member of their faith, in which indeed he had become by reading and suggestion a whole-hearted believer. Inspired by this double motive, one Sunday in 1619 when the community came out after vespers, he went to the Prior and told him the time had come for him to be baptised. The Prior in pursuance of

his careful policy would not immediately agree but after the matter had been further discussed by the Fathers of the convent of St. Nicholas, a feast day was selected and with great pomp and magnificence the prince and his sister were baptised. She was given the name Petronilla and he was christened Martin, an old family name of Portugal. As Dom Martin, the Portuguese noble, he is known from this date.

It is now necessary to glance for a moment at Sandwip and Arakan to see how the political situation there had changed during the seven years spent by Dom Martin at Hugli.

The fall of Chittagong had changed the fortunes of Gonsalves Tibau. As long as Min Mangri was Viceroy, the pirate-king was assured of a dominating position at the head of the Bay. With his death and the appointment of a new Viceroy strictly under the control of the King of Arakan, his position was threatened. He realised that it was a fight to the death between him and Min Khamaung, the King. As he was certain that the Arakanese would choose an opportune moment to send a strong force against him, he planned to forestall their attack and by some startling and particular exploit cause them to decide to leave him alone. With this object in view he proposed in 1616 to sack the capital Mrauk-U itself. As this was beyond his powers alone, he sent an emissary to the Viceroy of Goa, Dom Jeromyno de Azevedo, representing to him that a sudden onslaught upon Mrauk-U by the combined fleets of Sandwip and Goa would probably be successful and that as Mrauk-U was the richest city in the Bay, much treasure might be expected. This proposition illustrates the quality of the Portuguese eastern empire in 1616. It was clearly hastening to its end when a pirate-king could enter into negotiations with the Viceroy and plan with him to make a sudden descent upon a city with which Portugal was at peace. Dom Jeromyno accepted Tibau's proposal and sent a fleet consisting of sixteen ships under Dom Francisco de Menezes Roxo. The rendezvous was the mouth of the Kaladan river, the present Akyab harbour. Tibau arrived with fifty ships and the combined fleet of sixty vessels proceeded up the river. It was the month of November, the beginning of the cold season, and as is the case at that time of year, the weather was calm and bright. Mrauk-U lies fifty miles from the sea and the final approach to it is a network of narrow creeks. The Portuguese project was in fact ludicrous. Mrauk-U was impregnable from such an attack by ships. The Portuguese had not the smallest chance of success and their plan must have been conceived in complete ignorance of the terrain. They were not to get very far. Somewhere in the neighbourhood of the Urritaung Pagoda the Arakanese fleet attacked, assisted by certain Dutch vessels which happened to be in the port. The engagement was hot and long. To begin with the Portuguese had the advantage of the tide, which was flowing up and assisted them in pressing the attack. But towards evening Dom Francisco, the Viceroy's admiral, was killed by a musket ball in the forehead and with the turn of the tide the Portuguese broke off the battle, headed for the open sea

and returned to Sandwip. The Viceroy disgusted with so ignominious a failure would not hear of a second attempt and withdrew his ships. Some of Tibau's own men, seeing that he was now isolated, deserted him. Min Khamaung followed up his victory. A strong force was sent to Sandwip. The island was taken. Gonsalves Tibau escaped the massacre but he was a ruined man and appears no more in history.

Such were the events which had occurred during Dom Martin's seven year novitiate at the convent at Hugli. Their effect was to make him entirely dependent upon the Portuguese of Hugli for his future. His relative Tibau, his elder sister who had married Tibau's son, the resources of Sandwip, interest with the inhabitants of Chittagong, all had gone. His uncle Min Khamaung was firmly established on the throne of Mrauk-U. In such circumstances it is easy to perceive why he turned his mind away from his own country which offered him no prospects and as time went on began to concentrate it upon carving out a distinguished career among the Portuguese. As stated above he was thirteen years of age when he became a Catholic. Shortly after this the Hugli Fathers, who now began to regard him seriously as one of their nation, decided that for a youth of such promise Hugli was too restricted a sphere and wrote to the Viceroy suggesting that he should be invited to Goa and there presented at the Viceregal court in conformity with his rank. This was sanctioned and accompanied by his beloved master Father Antonio de San Vincente, he went to the capital of the Indies. There they lodged him in the convent of Our Lady of Grace, but he also frequented the court and by mixing with the noblemen in the Viceroy's suite, he completed his education. He seems to have been a young man of open and engaging manners, magnanimous and high spirited and after five years residence in Goa, at the age of eighteen he found his taste for the profession of arms had grown so strong that he begged the Viceroy to give him a commission in the Navy. This request was granted; he left the convent of Our Lady and began his service as a cadet under the personal supervision of that old master of the military art, Captain Freire de Andrada, General of the Straits of Ormuz. This important event in his life took place about the year 1624, two years after his uncle Min Khamaung had died and his first cousin Thirithudhamma had succeeded to the throne of Arakan.

For three or four years the young Arakanese prince served with the Portuguese navy in the Persian Gulf. He rapidly distinguished himself and Manrique observes that in his numerous actions he proved himself so capable a soldier that even old Portuguese veterans were known to call him a brave young man.

In 1627, when he was twenty-one years of age, the Portuguese found themselves seriously threatened in the Straits of Malacca. The King of Achin, that strong native state in the north-west of Sumatra, laid siege to the town of Malacca. The Portuguese power in the Indies had been rapidly declining since Portugal in 1581 was united to

Spain under Philip II. The interests of the smaller state were subordinated and the Spanish wars in the Netherlands resulted in the Dutch molesting the Portuguese in eastern waters. Simultaneous trouble in the Brazils further embarrassed them and they were unable to send sufficient men and ships to the east or to replenish the armament of their fortresses. If the King of Achin should be successful against Malacca, the Straits would be closed and Maçao in China cut off. It was therefore of vital importance to the continuance of the Portuguese power that Malacca should be relieved. It appears that Dom Martin had returned from Persia and was in Goa at the moment. His record had been brilliant, a great emergency existed, and in spite of his extreme youth he was given the rank of Captain and the command of a ship by the then Governor, that valiant Bishop, Dom Luis de Britto. Here was an opportunity for the young prince to distinguish himself. The Portuguese fleet consisting of thirty sail was commanded by a remarkable nobleman of the name of Dom Francisco Coutino del Sem. As it approached Malacca, it was met by the Achinese fleet of sixty galleys, two deckers mostly and well provided with artillery. In spite of his inferiority Dom Francisco decided to give battle and hoisting the banner of Portugal, emblazoned with the five wounds of Christ, he raised the cry "Santiago" and led the van into action. Each of his vessels was laid alongside one of the enemy. The Portuguese swarmed up their sides under cover of a barrage from their arquebusiers and in spite of a savage resistance by Turkish, Persian and Khorassian mercenaries, succeeded in seizing and burning the majority of the Achinese fleet. In the hurly-burly of this battle Dom Martin bore himself bravely. The enemy ship engaged by him was burnt, while he himself sustained a lance thrust.

It might be supposed that such brilliant services to the crown of Portugal by an Arakanese prince would have been reported to the King. That he was specially mentioned in despatches seems to have been the case, but Philip IV, King of the united peninsular, was in the hands of Castillian ministers, who concerned themselves little with Portuguese victories or defeats. In consequence he knew only what they saw fit to communicate and does not appear to have been informed of Dom Martin's eminent services.

This lack of notice from Portugal did not dishearten the prince. After the battle of Malacca in 1627 he joined the fleet of Dom Alvarez Botello and with him sailed those seas, being again engaged with the Achinese at Malacca in 1629, against the English and Dutch in Singapore in 1630, remaining on until his Admiral was killed in the explosion of a captured Dutch vessel while attempting to save Dom Antonio Mascarenhas, one of his friends. These details show that Dom Martin was serving with men of great qualities, where the standard of valour and conduct was high, and when we find it recorded that he conducted himself in all these events in a manner that evoked the commendation of his comrades and superior officers, it may be assumed that he was a very remarkable man. For ten more years he continued to serve the Portuguese as a naval

captain. These were years when their powers continued to decline and when their fleets were engaged with the Dutch and the Cingalese, sometimes in victory, but more often in defeat. By 1640 Dom Martin was thirty-four years of age and had had sixteen years active service in Persia, in Ceylon and in the Straits. He had seen fighting from Ormuz to Jacatra and he must have been recognised as a veteran commander. But events destined profoundly to affect his future had been occurring both in his own country of Arakan and in Portugal and it is necessary now to glance at these.

As already stated, about the time Dom Martin went to Goa, his first cousin, Thirithudhamma succeeded to the throne of Arakan. In earlier studies I have described Father Manrique's meeting with Thirithudhamma's children, the scene by the tank in the palace precincts when the elephants squirted the crowd and when the Father presented the younger prince with a toy dog. The strange murder of the King has also been detailed, with the death of his eldest son, the disappearance of the other and the usurpation of the Chief Minister, Kuthala, as Narapatigri. These events occurred in 1638. Narapatigri thought he had exterminated the legitimate line of the kings of Mrauk-U. But he had forgotten Dom Martin, who on the death of his first cousin's children, became the legal heir to the throne. Narapatigri may have known of the existence of Dom Martin and thought he could safely be ignored. This, however, was not Dom Martin's view. As soon as he heard that the throne of his fathers was occupied by a usurper, he began to cast about in his mind how to recover it. The turn of events in Portugal two years later gave him his opportunity. For several years the Portuguese nobility had become more and more dissatisfied with the union of Portugal with Spain. The interests of Portugal had been entirely subordinated. By 1640 the state of affairs in Portuguese India was desperate. For this and other reasons the nobility conspired to break away from Spain and crown as their king the Duke of Braganza, descendant of their legitimate line. The Spanish Government was successfully driven out in December 1640 and the Duke of Braganza a fortnight later crowned king as John IV. From the point of view of Portuguese India this revolution had great importance. It meant that an effort to restore Portugal's position in the East would be made. Dom Martin saw this as his opportunity. If he could get to Portugal at this moment of enthusiasm, explain who he was, recount the long record of his services to that state and suggest the great advantages that would accrue to all parties if he by Portuguese aid drove the usurper out of Mrauk-U and assumed his ancestors' throne as an ally of Portugal, ready to place at its disposal the resources of Arakan, its long coastline, its excellent harbours, if he promised to hound down the Dutch, to come forward with treasure and men, would he not be making an offer likely to be accepted, an offer also that would permit him to make payment for all the kindnesses given, the honours heaped upon him by the Portuguese, an offer that would procure for them the very salvage of their eastern Empire? Such was Dom Martin's plan and, probably in the autumn of the year 1641, he embarked incognito for Portugal. It

appears that the Viceroy for some reason not stated was averse to his going and he had to leave secretly, badly provided with clothes and other necessities. His old schoolmasters, the Fathers of the convent of Our Lady of Grace, had done their best for him and it was arranged that on landing at Lisbon he should go straight to the headquarters of the mission, where he would be received by certain Fathers who had known him in India and who would make arrangements for him to meet the King.

The long voyage by the Cape was successfully accomplished and he arrived at Lisbon probably in the spring of 1642, in the thirty-sixth year of his age. As arranged, he presented himself without delay at the head convent of Our Lady of Grace, where he was given a lodging. There he met one who had been his greatest protector in Goa, his revered friend the Reverend Father Coutino. This Religious and others he had known in India took him to the cell of the Head of the Order and so he was gradually introduced to influential people. Father Coutino placed certain funds at his disposal for current expenses, but before he could be presented to His Majesty John IV. it was essential that he should be properly dressed and that when he went to pay his respects he should be equipped in all points like a prince from overseas. As the good Fathers had rescued him from death in infancy, brought him up, made him a Catholic, seen him turn into a *hidalgo* and watched with pride his career as a Captain in the Navy, they were naturally anxious for him to cut a good figure at the royal audience, and after a certain interval they were able to interest on his behalf John of Alencastre, a collateral of the House of Portugal. This nobleman fitted him out. It must be remembered that masculine fashions in 1640 were expensive and before Dom Martin was suitably accommodated with silk doublets and hose, a plumed hat, buckled shoes, gauntlets and jewelled rapier, charger and page, Alencastre must have drawn liberally on the family revenues. At a favourable opportunity Father Coutino mentioned him to the King and he was received in audience. The details of what transpired on that occasion have not been recorded, beyond the general statement that the King promised to further the Prince's aspirations in Arakan. It is easy to divine that between these two must have existed a natural bond of sympathy. The Braganza had just succeeded to the throne of his country, a maritime kingdom comparable in extent to Arakan, and which for sixty years had suffered what was known as "the Captivity." He could understand the feelings of the dispossessed heir, and his heart must have prompted him to give Dom Martin a favourable reply. In addition to such private inclinations, there were, as have been explained above, strong reasons of state why Dom John, whose ambition was to restore the estates of Portugal in the East, should desire to have upon the throne of the second strongest kingdom in the Bay of Bengal a prince versed in his needs and devoted to his interests. Hence the chronicler's observation that the King and Dom Martin arrived at a complete agreement is readily understood. The latter remained in Portugal until the next sailing season. He continued to lodge in the convent where the

King from his own purse provided him with all the funds he required. During these months the details of the help to be given him were elaborated and when he sailed it was with the full assurance that the arms of Portugal would assist him to the throne of his ancestors. But he was never to reach Goa or Arakan. He died on the voyage out.

In the face of this sudden termination of a singular career, two questions arise. Could Dom Martin have succeeded in defeating the usurper Narapatigri with the help of the Portuguese and if so, how would this event have altered the course of Arakanese history?

In the first matter, the Arakanese MS. histories are emphatic that Narapatigri was a most unpopular sovereign. It is recorded that the violent extinction of the legitimate dynasty with the murder of Thirithudhamma and his son shocked public feeling; that large numbers of the upper class fled from Arakan to Chittagong, which though still legally part of the kingdom had made itself independent; that the county-side became infested with bandits and that trade came to a standstill. Under these circumstances, if Dom Martin had landed in Chittagong at the head of a well equipped Portuguese force, had declared himself Razagri's grandson and the legitimate heir to the throne, at the same time calling upon those who had fled from the tyranny of the usurper to join him and march on Mrauk-U, if on entering Arakan he had proclaimed to the people that he came as a deliverer and commanded them as their rightful liege lord to rise against and put to death the abominable traitor who had slain their king, there is little doubt that he would have entered Mrauk-U in triumph.

But in regard to the second matter no such certainty exists and the mind is amused among alternative speculations. Could a Catholic and one who was by education a European have formulated a policy agreeable to the inhabitants of a Buddhist state of the seventeenth century? On the contrary, could not such a man with his wide experience of the world and military affairs have arrested the national decline, prevented the loss to the Mughol of Chittagong in 1666 and so strengthened the dynasty as to have enabled it to resist with success the onslaught of the House of Alaungpaya in 1784 and maintain its independence, perhaps till the present day? To these questions there is no answer or the answer is dim as dreams, for it is as difficult to alter the past as to foretell the future.

When Dom Martin lay dying on board the Portuguese vessel, which he had hoped was to carry him to the threshold of a kingdom, but which had brought him instead to the threshold of death, very well may he have reviewed the vicissitudes of his career, Chittagong besieged, his father's mortal wound, the flight down subterranean passages to a fresh existence at Hugli, very well may he have seen in retrospect his conversion to a foreign faith, his entry into a foreign navy and the long years of his service at Goa, Ormuz, Malacca till the birth of a new hope drove him

to Lisbon, to the king's presence and now to this last sickness on ship-board, and in his weakness, so musing over thousand dangers and disappointments, well may he have felt that, were he to live, his fortunes in Arakan might be even more curious and extravagant, so that lacking the heart to face a new cycle of adventures, he may have turned with relief to death.

JOURNAL DU VOYAGE DE SIAM

Fait on 1685 & 1686.

Par M. L' ABBE DE CHOISY.

This curious and interesting old book was published in Paris in 1687, with a preface by the printer, the substance of which is as follows: "Here, reader, is a journal of a voyage to Siam. These are familiar letters to a friend without any intention of publication. But having been happy enough to recover them, I represented to him who had written them, that as I had a copy, others might also have them and any day he might have the unpleasant experience of seeing them badly printed and mutilated. These reasons touched him: and he has permitted me to give you this journal which I hope you will receive agreeably."

His diary opens on the day he embarked, the 3rd March 1685, and he gives an account of some of his fellow travellers in the "Oiseau." This was a war vessel of His Majesty the King of France, "with 46 pieces of cannon". M. le Chevalier de Chaumont, as Ambassador, commanded all: M. de Vaudricourt is the Captain of the vessel; the Captain of the frigate acted as first lieutenant, on board the "Oiseau," while the frigate was under the charge of Lieutenant Joyeux. The "Oiseau" had forty six cannon, while the "Maligne," as the frigate was named, carried 24 cannon. Of the remainder of the people on board, we are given but scant information. Incidentally we gather that there were several priests on board, probably missionaries going out to the East to serve in the missions there. The author of the account of the voyage given, himself became ordained as priest when in Siam. He had apparently been considering this for some time, and meanwhile made himself useful to the Ambassador, more especially in Siam.

The origin of the diary seems to have been a promise made to a friend in France that he would write to him every day, a promise which he carefully kept, though the length of his daily letters varied greatly. Sometimes he writes quite long accounts to his friend; at other times he has only some remarks on the weather, which he writes all the same. On 20th March he writes "M. de Vaudricourt will not enrich himself this voyage: so many of his fowls and pigs die; but he has made such ample provision that it is difficult to believe that we can come to want..."

Again on the same day he writes "Our Ambassador prays God three quarters of the day; . The Jesuits and the Missionaries either regard the stars, or meditate."

On 16th April the "Maligne" fired a cannon to let us know that she was in difficulties. He adds "this vessel is very delicate and makes us lose much time. Life is a mixture of good and evil. We should go

much quicker without her, but we should go entirely alone." The Maligne was extricated from her difficulties, and on 22nd April the diarist indulges in the following rhapsody. "We have sung with pleasure, Alleluia !. May the fowls be plump ! May the sheep be fat ! Time goes very quickly : here we are already at Easter, and at 15 degrees 49 minutes. In all good faith I have not been bored for a moment. The term approaches. These great events are going to arrive. We will know soon what is going to arrive. A King embraces Christianity : a million of souls follow his example : there is perhaps what we are going to see : there is at least what we are going to try. Was there ever a more beautiful design : and could there enter the heart of man an idea more noble a thought more magnificent ?" On 24th April he tells us that they have heard all the preachers on board except Father Tachart, but the sailors have heard him often. He catechises : he is always with the sailors, keeps them from swearing, makes those who have fallen out with each other embrace, and proposes prizes for those who do best. To do that every day is worth more than preaching once a year."

On 13th May we are told of the conversion of two Calvinist sailors. Father de Fontenei made the exhortation to them. They were the only two Huguenots on board ; and to tell the truth they were well predestinated, for if their religion had been known at the start, they would not have been taken on board. They could not resist the reasoning of Father Tachart who had discovered them and instructed them ; and to the good example of Monsieur l' Ambassador."

On 31st May they arrived at the Cape. It had taken them nearly three months to do that part of their journey, and apparently they ran a considerable risk of being shipwrecked there. They were afraid to enter the harbour on the evening of their arrival, so waited until the following morning, with the result that they had the most dangerous and fatiguing day of the voyage. The wind fell suddenly as they entered the harbour, and they found themselves quite near a rock towards which the current carried them. Eventually they anchored, and were visited at once by two ship captains and the Fiscal of the Cape, who came to ascertain who we were, and to deliver compliments to the Commander and to offer any thing in their power to give.

The entry for 1st June is interesting. Condensed it runs much as follows. There are at the roadstead of the Cape four ships which carry a Commissary-General who goes to the Indies on behalf of the Dutch Company to visit the places, and to give order to all. He is named M. le Baron de Reede, and has sovereign authority, even to change the Governors. He has sent this morning a gentleman to M. the Ambassador to present his compliments. His vessel carries the flag of an admiral. Thus do the Dutch in the seas of India and from the time they pass the line, they carry the flag, even if only a small merchant vessel. M. the Ambassador has sent the Chevalier de Fourbin to present his compliments to the Commissary and to the Governor. Then follows an account of

the salutations from the various ships, which were all scrupulously returned. "Our sick, our Jesuists, and our Missionaries have gone on shore. I shall go tomorrow in good company; for it is said that there are on the mountain certain lions of a bad temper and savage elephants very impertinent."

On 2nd June he went ashore where he was struck by the Dutch orderliness which prevails everywhere. All our young men went hunting. The Dutch had furnished them with horses, with dogs, and some Dutchmen went with them to lead them to the best places. The lions and the elephants have moved into the jungle since the country was inhabited. The monkeys, however, remain near and come to steal the fruit as it ripens. First they place, on the rocks or on trees, sentinels, which give a cry of warning when they see any people about. The bravest baboons enter the gardens and pass the melons from hand to hand. They retire on three legs each carrying a melon in one hand. When pursued they lay down the melons and defend themselves with stones. The hunters of the party had been regaled at a country house some distance out of the town. They brought back roebuck and partridges. The writer and other less adventurous people contented themselves with fishing, and were quite satisfied as their fish was admirable to eat.

On 5th June he writes: "I have been this morning to visit the Commissary-General. M. the Ambassador is imprisoned in his character; but I who am without consequence, I have been to thank him for all his kindness which he has for the French. He received me graciously. He is a man of 60 years of age, who resembles the late M. de Navailles: a good physiognomy, with much wit. He spoke Portuguese and I French. We had no need of an interpreter. . . . The conversation did not halt; it had fallen almost always on the King, of whom he knew all the great qualities, as if he had passed his life at Versailles. He said to me 'Your King speaks like the Holy Scriptures: he says, and all is done. You tell me that he is all the days four or five hours at the Council; as for me I believe that he is there always, to see how he leads his neighbours.' " They had taken tea several times when M. de Saint Martin entered. The rest of his account is best given in his own words. " "M. de Saint Martin is a Frenchman, Major General in command of all the troops of the Company in the Indies. He comes from Holland and returns to Batavia. These two men (the Commissary-General and M. de Saint Martin) are in close union. Over thirty years ago, being then young, poor, useless and brave, they embarked, the musket on the shoulder, on a vessel which went to the Indies. Since that they have risen by degrees to become the first employees of the Republic. They had a friend who had commenced as lowly as themselves, who died two years ago as Governor of the Cape of Good Hope. They intend to raise a magnificent monument, with an inscription explaining the fortune of the three friends. M. the Ambassador came to walk in the garden incognito; there he met the Dutch General; great compliments, great civilities on both sides,

Pure hazard led to the interview ; both parties were very much pleased to meet. I was their only confidant."

On 7th. June they started with a good wind, but the Maligne had difficulty in following us, though she had prided herself on going quicker than the Oiseau. "The sick have recovered, thanks to their six days on shore. The rest of the equipage is a little fatigued: the poor men have done in five or six days what the Dutch would have taken three weeks to do. They have scarcely slept, they will repose at Bantam." On the following day the writer gives an account of the origin of the Dutch establishment at the Cape. "In 1651 the Dutch established themselves there, and bought of a King or Captain of the people of the country about two and a half miles of land at the place where vessels were most sheltered. It cost them only some tobacco and some brandy. They built first a wooden fort, where they placed twelve or fifteen pieces of cannon. But four or five years after, they built a fortress of stone, well fortified, in which they placed more than sixty pieces of cannon. There are neither outworks nor ditches and that is good only against the people of the country, who have no weapons except poisoned arrows. There are more than 100 houses within a musket shot of the fortress, all clean and white after the Dutch fashion." Then he goes on to say that the natives are called Hottentots, because in their language they often use a word like that. The Dutch are gradually advancing in the country, which they buy with tobacco. They have already made at ten leagues from the Cape a colony where there are 80 families settled. They send expeditions into the interior of the country to acquire information. I conversed with a man who had gone on journeys of exploration. He told me that he had advanced more than 100 leagues, finding every where the same people, wandering with their flocks.

On 17th June there was trouble with the sailors. Since leaving the Cape the sailors had received brandy instead of wine. This seems to have been given to one man in each mess, with the result that he drank the whole allowance himself, thus leaving none for his messmates and becoming quite drunk himself. To remedy this the brandy was mixed with their water. The sailors naturally objected to this, but we are not told how the affair ended.

On 18th June he indulges in dreams of the future. He congratulates himself on his progress in Portuguese, and even in Siamese, which he began to study on the voyage. Regarding this he writes, "In eight days they will give me themes; and if it pleases God on arriving in Siam, I will understand part of what is said to me: Custom will do the rest. If it is necessary to return this will all be merely time lost. But my heart tells me that I shall remain. I have not gone out to return. The King of Siam is too good a man to send me back; and if I can speak his jargon, I have so many things to say to him, and so amusing for an inquisitive man like him, that he will be only too happy to retain me."

On 3rd July he writes; "Do you not remember to have read the history of the good man Arosca Roifelet, the Australian? We are not far from his country. He received so well Captain Gonneville: I believe that the grandson of his grandson, for it was 150 years ago, will receive us still better. I believe it is better to avoid the Australian Coast. The good man Arosca gave his son to Gonneville to bring him to France on condition that he should be brought back in 18 moons with two pieces of cannon with which he could frighten his neighbours. Gonneville broke his word: Arosca is still waiting. It will be better for us to go to Batavia where we shall be as well received as we were at the Cape." After this bit of fooling he complains of the wind being adverse and wonders whether they will arrive in the current year.

On 6th July he gives us some information about himself, which we were left without hitherto. "I study as much as I like. The Siamese gets on well, and I begin to talk to the Mandarin. But on the whole I am resolved to accept what God wishes with me. If I remain in Siam, I believe I will not be bored during two or three years; and if I don't remain I shall always have the satisfaction of having made a good voyage. I shall have learned many little things. I shall scarcely have offended God during two years. Alas, perhaps they will be the two best years of my life! How could any one offend God on this vessel? One speaks only of good things, one sees only good examples. The temptations are at three or four thousand miles from here. Frankly we have no great merit in living inoffensive lives. It was already resolved before leaving Paris to give myself entirely to the Church. I see the good of the altar: is it not necessary to serve the altar? I hope that God will give me the grace to take Orders in Siam, and at the hands of those good Bishops, successors of the Apostles. That will bring me happiness; and when I had in my head only this design did I not do well to make a journey of twelve thousand leagues? I am in the humour to talk; but nevertheless it is necessary to quit you. Another time we will talk again on this matter: the subject is not exhausted." A curious comment is given on 29th July, which is worth reproducing as it is a criticism on one of the missionaries on board. "Father Gerbillon preached on hell, with much spirit. He said many good things; but with a little too much vehemence, which he will learn to moderate in China. For there one does not preach, one speaks good sense, one reasons justly; and when the Chinese see a preacher, who cries aloud, they begin to laugh and say: At whom is he aiming, whom does he want to fight? and does he want to persuade me by showing that he has given way to his passions, and that anger transports him?"

On 16th August they arrived at Bantam, where they found the missing *Maligne*. It was curious that two ships should lose sight of each other and then meet again two months later. M. Joyeux told the Chevalier de Fourbin that he had sent to Bantam for permission to lay in a stock of water and provisions; but the Dutch had refused, saying that the King

of Bantam did not wish strangers to put foot in his kingdom; they themselves were merely auxiliary troops and had no power: all they could do was to give some refreshment to the party who had come ashore, of which they made them a present. They also sent on board the *Maligne* a bullock, some fowls and citrons. The Chevalier de Fourbin came back at once to lay the case before the Ambassador, who sent him back at once to Bantam to demand at least water and refreshments, being resolved to put up tents in an uninhabited island for our sick. We would anchor in the Bay of Bantam, but two good leagues from the town. The frigate would anchor alongside of us. It is said that the old King of Bantam has managed to send one of his sons to England, knowing that the English only could put him on his throne again. Apparently the Dutch had established another son on the throne, who ruled under their directions. Disgusted with the treatment received in Bantam the Chevalier de Fourbin was sent in the ship's boat to Batavia to ask there for the supplies which had been refused at Bantam. He returned in triumph. The General had accorded him more than he had asked for. We were allowed to send our sick on shore; to lay in water, wood, and all sorts of refreshments. In this we recognised our friends at the Cape; but let no one speak to us of Bantam.

On 24th August he writes as follows;

"There has arrived here a Dutch vessel which left Amsterdam in month of December last. It was becalmed for two months on the line and was not able to visit the Cape of Good Hope on account of the bad weather. The Captain, two pilots and forty-five sailors were thrown into the sea. Judge of our good fortune in having made almost the same journey in five months without evil or grief; we are not accustomed to these long navigations, and on whom the changes of climate should make more impression." On 26th he gives us further information regarding the past history of the town. He says that more than a hundred years before the time he writes, the English took the town of Jacatta from the Emperor of Mataram, and burned it; they built a house with a wretched little fort. The Dutch came in the year 1617; and under pretext of putting their sick on shore, they landed cannon and destroyed all the English, and established themselves in their place. There follows a long account of the Dutch possessions in the East, where at that time they were practically the leading European Power. It is a curious fact that having got the start in the exploitation of the East they did not retain it. The writer of the journal winds up his account as follows; "The Dutch Company has in the East a hundred and sixty vessels, carrying from thirty to sixty pieces of cannon; and in time of war they could easily add forty more."

On 23rd September they had arrived at Siam but had not got into the harbour yet. The Ambassador wrote to the Bishop of Metellopolis asking him to come on board to confer on all things. "It is not a question now of the entry; But it is necessary that the entry should be

worthy of the greatest King of the world." It was necessary, of course, that the Ambassador should not be let into any action which might in native eyes reduce the dignity of the King of France. On 25th September we are told that the Mandarins went ashore in a Siamese boat. They got a salute of five cannon shots. They were delighted to see Siamese faces once more. The old Mandarin wept like an infant because he had learnt that his grandmother was dead. Next day the Chevalier de Fourbin came on board bringing with him a French silk merchant who gave us good news. The King favours the missionaries and the French in all things. He refused to hear the Portuguese, who sent him an Embassy to request him to banish the Vicars Apostolic. The King seems always uncertain of the part he ought to take in religion. On 28th September we are told that the chief of the Compagnie Francoise came on board with the Captain of a French ship which is at Siam. We were delighted to see Frenchmen. He told us that the Bishop of Metellopolis started at the same time as he did coming to see the Ambassador. He did not arrive, however, until the following morning. The writer describes him as a man looking 60 though he is only 45 years of age. The writer goes on to say that the result of his conversations with them is that he thinks he will return to France with M. le Chevalier de Chaumont. The conversion of the King is not likely to be immediate. He favours the religion, he loves the missionaries, he builds churches for them, but he is still a long way from seeking baptism. Then he goes on to say, "Here are two Mandarins of the royal household who come to pay their compliments to the Ambassador. They said that the King had been transported with joy to learn of the good health of the King of France."

It is interesting to consider the time spent on the journey. They sailed from France on the 3rd of March 1685, and arrived, not actually in Siam town, but near enough to anchor, and to receive visitors from the town, on the 22nd. September. They had thus been fully 200 hundred days at sea. Even after the 22nd September various other delays hindered their landing. Not only had the ship to be brought right up to the harbour, but there were other things to be considered. It is only on 1st October that we hear that the King of Siam, hearing of our arrival, sent one of his Great Mandarins to prepare a place for the French Ambassador. For the next few days they seem to have remained on board the ship till they could land in proper style. At last on 8th October they did this. Two Mandarins sent by the King, complimented the Ambassador in the name of the King, and begged him to land. Two hours later we had left, under a salute of fifteen shots of cannon. The Ambassador, the Bishop and I entered the King's boat which was all newly gilded. All the other members of the party filled other boats. They seem, however, to have returned to the ship, as by the entry in the diary for 10th October, we are told that "when we left this morning, the two fortresses saluted with all their cannon All the houses of the Ambassador are painted red; another great and singular

honour . . . We passed this morning between two wooden forts, one of which saluted us with six shots of cannon and the other with eight." On 11th. October he mentions having found a Dutch and an English vessel, both small and badly constructed; the Dutchman saluted them with nine shots of cannon and the Englishman with five only. At dinner two "Opras" (we are not told what they were) came to visit them; also General of the troops on the frontier of Pegu, and twenty Mandarins came to visit them; also other great and small Mandarins.

On 13th October, we are told that the King of Siam had assembled all his grand Mandarins, and had told them, by M. Constance that they should not be astonished if he did unheard of things to honour the Ambassdor of France. He knew that the King of France excelled all other Kings in power and merit, so he could not give too great marks of repect to his Ambassador. At this some objected saying that similar honours had never been paid to the Ambassadors of China, nor to those of the Great Mogul, nor to those of the King of Persia. M. the Ambassador called the Mandarins who were with him and asked how the King of Siam received those other Kingdoms. He himself explained the mode of reception in France. The Mandarins explained that the manners of the Orient were quite different, but they could not speak without the orders of the King. The Ambassador asked that some one should be sent with power to make arrangements for the interview. He was informed on the spot that His Majesty had ordered M. Constance to see the Ambassador and to arrange eveything with him.

On 14th October we are told of a visit to the Ambassador from the seminary of Siam and the college of Masprend. The diarist says; "It is a long time since I have seen any thing which touched me so much. One saw at the head a dozen priests, venerable by their beards, and still more by their modest behaviour. Forty young ecclisiastics followed varying from twelve to twenty years of age, of all nations, Chinese, Japanese, from Tonkin, Cochin China, Peguans, Siamese, all in cassocks. I could have believed myself to be at the St. Lazare seminary. A Cochin-chinese haranged in Latin very well; Tonkinese did the same even better. All these will become priests; there are already many in orders. They write on philosophy and theology as at Paris; and when any are found capable, they are sent, each to his own country to preach the faith, and they make more converts than the missionaries of Europe."

By 18th October all the necessary arrangements have been made for the visit of the Ambassador to the King. There is no necessity for describing the carriage of the letter to the King's palace. The Ambassador took off his hat on seeing the King; and after entering the hall made a profound reverence in French fashion. I was on his left and made no reverence because I carried the letter of the King. We walked to the middle of the hall between two ranks of prostrate Mandarins. There was among them a brother-in-law of the King of Cambodia. The Ambassador

makes a speech, probably in French, which the King would not understand. The letter is too long to repeat here, but the concluding part of it will suffice to give an idea of the whole. "That the most agreeable news he could carry to the King his master was that his Majesty persuaded of the truth would get instructed in Christian religion; that would cement for ever the friendship between the two Kings; that Frenchmen would come into his States with more enthusiasm and confidence; and that in fact his Majesty would assure for himself, by this means eternal bliss in Heaven, after having reigned with so much prosperity as he does on earth." The Ambassador then showed His Majesty some of the presents which were in the room. Then M. Constance, who had served as interpreter, prostrated himself three times without speaking and explained the harangue in Siamese. Then follows an absurd dispute about the mode of handing the King of France's letter to the King of Siam. Eventually the Ambassador took the matter into his own hands, and handed it to the King who had to stoop to receive it. The writer comments on the matter as follows: "This posture of the King of Siam refreshed my blood; and I would gladly have embraced the Ambassador for the action which he had made. But not only did this good King stoop so low to receive the letter of the King: he raised it as high as his head, which is the greatest honour that he could give. He said afterwards that he received with great joy the marks of esteem and of friendship of the King of France; and he was almost as glad to see the Ambassador as he would have been to see the King of France himself." The translation of the letter into Siamese took place next day. The letter had been brought from one house to another with the same pomp as on the day of the audience. There were present in the hall forty Mandarins of the Council, the Barkalon, M. Constance, M. de Metellopolis, M.^r Abbe de lionne, and M. Vachet.

On 28th October we are told that the King has appointed three Ambassadors to go to France: these are men of the first quality and they will be accompanied by twelve Mandarins. The writer goes on to say: "We have been at the High Mass at the Seminary. I am no longer astonished that the Missionaries do so much good in these countries: their bearing, their conversation, all in them inspires the desire to serve God. It is true that so far, they have not much gain to show in Siam. The Siamese have gentle spirits, and don't like disputing, and who mostly believe that all religions are good. There are however, fifteen or sixteen Missionaries dispersed through the country, and all have Churches, more or less great according to the number of new Christians. It must be said also for the justification of the Missionaries in Siam that they have only been ten or twelve years in the country; whereas in Tonquin and Cochinchina they have been more than 25 years. Moreover in these latter places they found that Christianity had already been established by the Jesuits, who were the first apostles. I believe I have read somewhere that Father Alexander de Rhodes, on quitting Tonquin, claimed to have left more than a hundred million Christians. They say that there are now two hundred millions, and sixty millions in Cochinchina."

On 6th November we are given the history of M. Constance who had helped them all so much in their dealings with the King, instructing them in all the little things necessary in interviewing the King, and guiding them in all their dealings with the people of Siam. "This man has a grand soul. He is a native of Cepholania, born of parents noble and poor. At ten years of age he entered an English vessel, and passed through all the degrees of the service. Afterwards he made commerce in China and Japan, and after having been wrecked, he attached himself to the Barkalon of Siam, who finding him of spirit and capacity for the affairs, brought him to the notice of the King; and after the death of the Barkalon, without having any charge, he did them all. The King several times wished to make him a grand Châcri, which is the first charge of the State. He always refused, telling the King that these great honours would make him useless in the King's service."

The following entry on 12th November should be of special interest in Burma. "The Government of Tenasserim costs more than it is worth, owing to the fortifications which the King had to make in the island of Mergui, at the entry of the port of Tenasserim. All the people are slaves, and obliged to work for the King. There are certain provinces, which pay the tax in silver, or in merchandise, and by that are exempt from the statute labour."

On 13th November there follows a long disquisition on the claims made by the Portuguese to the sole right to send missionaries to every part of the East. It seems that this claim is based on a concession of Pope Alexander the sixth, giving them the sole right to send missionaries to those Eastern countries which they actually hold, such as Goa. Apparently the Archbishop of Goa had sent to Siam a vicar to represent him there. This vicar by his disobedience had been excommunicated by the Pope, but he went on in his own way. A man who had been married by him, thinking himself not properly married, was married again by one of the French missionaries, whereupon he was excommunicated by the Portuguese priest. Not only was he excommunicated but all his relatives also. M. Constance heard of this and sent to have him arrested for having excommunicated a man belonging to the King and who was on the point of embarking on a long voyage, without at least advising the King or his Ministers of his intention.

On 14th November we are told that news has come from Tenasserim that the Ambassador of Persia has arrived there with a large following. I should have been glad if he had arrived here before we leave. It is said in the books that the Persians have the French air: we should have made an alliance with them, and they would have given us Persian wine to drink on the voyage. We are told further that the King of Siam, since he declared war on the King of Golconda, has armed six vessels, three of which are commanded by Frenchmen, and three by Englishmen. Further we are told that the Portuguese are now so feeble in the Indies, that the worst is feared for them. The Governor of Daman writes the same thing.

On 26th November we are told a curious story about a King of Pegu. He demanded a white elephant from the King of Siam. When this was refused he threatened to come with an army of two hundred thousand men. He came, besieged the city, entered the palace of the King, prepared two stands of equal proportions in front of palace, one for himself and the other for the King and with great ceremony made his demands, which were really commands, he demanded six white elephants, which were handed to him. He said he had much affection for the King of Siam, and loved his second son, whom he asked to have transferred to him for his education. Thus with much civility he took all he wanted and returned to Pegu with immense riches, and with an infinite number of slaves. He did not touch the pagodas, being a good Buddhist.

On 9th December we are told that the author is a deacon, and on the next day he was made a priest. His remarks on the subject are as follows; "Here I am a priest. What a terrible weight I have put on my back. It will be necessary to carry it; and I believe that God who knows my feebleness, will lighten its weight, and will conduct me always by the way of roses."

On 16th December we are told that "the kingdoms of Pegu and Ava, who obey the same King, are at war with Siam. Last year the Peguans carried away seven or eight hundred Siamese."

The writer had referred several times to his missing papers which he had searched for several times, but without finding them. He writes; "O God be blessed, I have just found my missing papers. M.^r Eveque, who is here, was not troubled about them. They were in a box which I had emptied three times without finding them: I don't know how that came about."

On 22nd December they actually get away from Siam. The entry in the diary for that day begins thus; "We raised the sails two hours after midnight. The rest of the Mandarins have not come: we will do very well without them. Three Ambassadors, eight mandarins, four secretaries, and twenty valets will suffice to give an idea of the Siamese nation."

The voyage back to France was not very eventful. They reached Brest on the 18th June, so the voyage home was somewhat shorter than the outward one. They spent about three months in Siam, and, no doubt enjoyed themselves there but it is difficult to see what advantage France expected to get from such a costly trip. They had taken a number of handsome presents from France to the King of Siam, and the latter must have spent a fortune in the return presents he made. The diary is full of these presents, but I have omitted most of the details of these, and have tried rather to bring out details of life in the East over 200 years ago: also any references to Burma more especially. The main object of the journey seems to have been an idea that, if sufficient pressure were put upon him, the King of Siam would be converted to

Christianity, and that the bulk of his subjects would follow his good example, and that the French would have the main say in the direction of affairs in Siam.

On referring to Dr. Anderson's book, entitled "English Intercourse with Siam in the Seventeenth Century," I find there are some references to this French Embassy, from which I annex a few short extracts. "French influence, however, was supreme for the time being. The Siamese mandarins seemed to have become infatuated with their newly-made friends, in whom they had such confidence that they even went the length of asking the ambassador to request the French King to send some of his troops to Siam for defence against the Dutch, who had become masters of the Peninsula of Malacca, and whom they dreaded would invade their kingdom. This message was carried to France by M. le Chevalier de Chaumont, who left Siam on 22nd December 1685, accompanied by some new Siamese ambassadors, who were graciously received on the 1st September 1686; and so gratified was Louis XIV by this second embassy, and with the request it carried, that he caused a medal to be struck in commemoration of this auspicious event." Then follows the following statement that "before the Chevalier de Chaumont had left Ayuthia, another ambassador had made his appearance at that court, not aiming, however, at political supremacy for his King, but intent, as the Sultan of Acheen and the ruler of Golconda had been, about seventeen years before, on the conversion of his Siamese Majesty, to whom he brought, not the Bible, but the Koran. His master was the Shah of Persia."

These are the historical facts, but the main interest in the diary of M.¹² Abbe de Choisy is the revelation of a man of the seventeenth century, who took part in the embassy, and at the same time left a diary, in which he reveals very much of the private life and thought of his time. I trust that the extracts from that diary may interest others as much as the book itself has interested me.

J. STUART.

“ MY RAMBLES ”

AMONG THE RUINS OF THE GOLDEN CITY OF MYAUK-U.

By

SAN BAW U.

Chapter VI.

In a northerly direction from the town, if one tramps along the road which is hemmed in on both sides with jungle, the flowers that bloom everywhere fill the surrounding air with fragrance. The only sounds that one hears are the cooing of doves and the crowing of jungle fowl, marred sometimes by the loud noise of angry vulgar herdsmen.

One goes past a hill called Haridaung about 200 feet high, on the top of which is an elegant little stone pagoda by the side of a well matched *Thein* and a high palm-tree. The two pole-staffs on which flutter *Tagun* and *Koka* flags by the aid of the gentle breeze from the south and the trees and shrubs that grow on the side of the hill give it the appearance of a complete Buddhistic scenery and form an excellent subject for the painter's nimble brush. At the base of the hill on the West one notices a large-mouthed pit in which 1,000 heads of strong able-bodied men of the metropolis of Myauk-U city, were said to have been buried during the horrible massacre that followed the occupation of Arakan by the Burmese; and also a Nat-shrine, where resides a girl-nat by the name of Ma Pru, who is said to be a cousin of Ma Myauk-U. The pagoda was built in accordance with the science of Yadaya about the year 923 B.E. (1562 A.D.) by King Min Zaw, who reigned from the year 918-926 B. E. The behaviour of some refractory Indian chiefs led to its constructions on a hill, as its name implies, of Indian origin and significance; and as India was controlled by Rohini planet, the science of Yadaya was made to play in influencing and controlling those chiefs, who of their own accord came in the very next year to Myauk-U and paid their annual tribute to the king. King Min Zaw was however deposed from the throne later by the popular vote of the people for his mal-administration.

A few minutes after, the famous Shithaung pagoda (temple should be more appropriate) on a low hill called Pakaung-daung, built in the year 897 B.E. (1535 A. D.) by King Min Bah, in which are enshrined 84,000 stone images of Buddha after the fashion of the great Asoka, appears to the view. As one goes up the flights of stone staircase of the first gate, an inky black jungle-crow above from a tree close by caws insistently; a moment later, its mate comes flying and perches upon the same bough, and then they both take to their wings. Also a few parrots up a high tree speak to one another in their sweet language for a time, and they too take to their wings and fly away with the speed of meteoric velocity.

On the left of the first gate one sees an upright heptagon stone pillar about 9 feet high, by the side of a square column 4 feet \times 4 feet of the same height composed of large stones. On the right a square massive stone column of similar size inscribed on three sides with archaic Indian characters of three different languages, which still require to be cyphered by experts stands like a sentinel. Close by, a partly damaged large slab of oblong stone and smaller pieces lie crumbling about the place in a disorderly manner. Careful examination however reveals that they once occupied the top of the gate. Its damaged condition evidently suggests not only the action of time and weather but also thoughtless vandalism.

Next, one observes on the first terrace the stone tomb of King Min Bah, the builder of the temple, surrounded by those of his descendents. The prototype of the former, in which are enshrined his ashes and bones on which are placed a few stone images of Buddha, is similar to the central dome of the shrine. The tomb of his successors are of different and various shapes and are more or less in irreparable ruins. One gradually and windingly goes up the base of a towering hill on the east and reaches the second terrace by a flight of ruined stone staircase through a stone archway. The top part of this gate has collapsed and gone though an oblong stone-slab about 7 feet long by $1\frac{1}{2}$ feet broad and by 8 ins. thick bridging the two stone walls on the top still remains to this day. Then, one enters the third gate made of strong well-baked, red ancient bricks arched with stones on the top. The arch of this gate has also collapsed, though the walls remain.

Quaint figures sculptured on both sides of large slabs of stone placed between tiny brick-pagodas in an uniform row of the second outer brick-wall at the south of the shrine, attracts one's attention and fills one's heart with a peculiar feeling of enchantment; it recalls to mind the story in the Arabian Nights' entertainments of the talking bird and the prince, who revived to life by sprinkling the enchanted water over the stone-figures of princes and other distinguished personages and their steeds, who were said to have been magically turned into stone, and stood on and at the base of, the hill for ages.

Then the quadrangular Court-yard in front of the shrine is reached where stone images of Godama lie about promiscuously. Some of these are headless, some armless and others buried under debris. The Court-yard is enclosed by four stone-walls topped with bricks; these walls have uniform niches in a row, in which are seated back to back on brick *Palins* or thrones, cross-legged stone images of Buddha bending slightly forward; also, on square stone *Palins* that jut out on the ground between and below these niches and again in the niches above. The front part of the main temple has seven receding rows, the one higher than another, on which are perspectively seated stone-images of Godama of various sizes and heights. The majority of these are much disfigured through long exposure to wind and rain. This is called Myinmho. A gilded

colossal stone-image of Buddha facing east serenely sits on a beautifully sculptured *Palin*, into which one is ushered by a narrow passage of stone walls through an arched entrance of rare design. The temple is made of large blocks of stone topped with ancient bricks and has a fine terrace. Above and at the centre of this terrace rises a large dome-like pagoda on the top of which is a perpendicular metal-rod about 8 feet high, surround by 26 smaller ones.

Then with the help of a good light one enters the shrine and finds oneself under vaulted corridors and a maze of passages going round the temple. The outer corridor is in ruins, the middle and the inner ones are still in a good state of preservation. The outer wall of the middle corridor is of brick and has a uniform row of arches, in which are sitting Buddhas back to back. The inner wall, all of stones is friezed and sculptured with figures of various animals and human beings in poses of all varieties like the catacombs of Egypt; such as, elephants, rhinoceros, buffaloes, bulls, stags, deer, horses, camels, tigers, sambhur, tapers, leopards, dragons, lizard fishes, fowls, ostriches, doves, parrots, crows, wrestlers, boxers, *biloos*, monkeys etc. The more noticable and important features are the figures of Thagyamin at the south-east or Tuesday and north-east or Sunday corners of the temple. The one at the south-east corner rests upon his throne mounted on a Biloo, which again rests upon a double-bodied Chin-the or leogryph. The names in Burmese characters သုဉ္ဏိ သုဉ္ဏိ သုဉ္ဏိ သုဉ္ဏိ *Thu-pa-pha*, *Thu-nandā*, *Thu-mālā* and *Thu-batta* inscribed on the side of the chariot below their feet are crude and indistinct, but have recently been cyphered by a Burmese expert-reader of inscriptions as indicating his four queens surrounded by their attendants. It is to be regretfully recorded here that these have also not escaped the hand of vandals, who respected neither the art nor the law. The other one at the north-east or Sunday corner with his four queens on his right and left, ride on three *Erawan* elephants resting on a Nagā or mythological serpent; his chief attendant *Withagyon-nattha* (Visvekananda) on a chariot drawn by horses surrounded by his martial attendants take up the rear. The four Hindu Gods Sandi, Parami, Sopi and Maha Peinne, Lokabala nats or Directors of this world's destiny, the last of whom is Genesh, that well-known deity with the human body and head of an elephant, are located at the north-west or Wednesday corner. The south-west or Sunday corner is specially reserved for the figure of king Min Bah, the dayakā of the temple, in his regal robes mounted upon a Biloo which rests on a double-bodied Chinthe. His chief queen Mibaya Saw May takes up the position on his right, as is apparent from her robes supported by two pages and the crown on her head; his left being occupied by his Crownless Myauk-nya-zan Mibaya, the queen of the northern palace. The members of his court and a pair of well-draped white elephants take up other positions on both sides. It may be remarked here that King Min Bah was born on a Saturday and his figure was purposely located at this corner.

The stories of Kinnara Jataka; of King Udeinna of the country of Kosanbi represented by the queen Kethani Mibaya under the claws of

the monster eagle on the fork of a large banyan tree; of the princess Ma Shwe U under the paws of a tiger and other quaint and mythical beings are prominently depicted on the walls. Hewn in rock are the three rows of *chirag* lamps one above the other. Also half-buried in the ground are the four stone figures of Wathondare or the Goddess of the Mother Earth squeezing out water from the tress of hair.

The inner corridor is dark, though the building is perfectly ventilated. As one enters its entrance, double rows of stone Buddhas sitting close to one another on a low winding platform are noticed on the right and tiny niches minus their occupants on the left. The walls of the innermost corridors made of bricks are damp and somewhat soft. They have large niches containing many stone buddhas of different sizes. Bats have made this corridor their home and one's entry into it startles them and they begin whirring over one's head.

This chapter should not be closed without making some general observations on the shrine. From the nature of the building, its prototype, position and the marks of hinges of heavy doors at its entrances and gate-ways, it not only breathes the air of the mediæval age but was undoubtedly one of the fortresses forming a link in the chain of fortifications constructed by the King of Arakan and as a place for the coronation of the kings; as well as a place of refuge for them in times of danger. The original art and exquisite workmanship displayed are objects of admiration not only by the general public but also by most skilful modern engineers. It is a unique and strong monument, but a century of neglect has given time to the growth on it of shrub-jungle and trees, whose roots made in-roads so damaging that the building was leaking very badly and was at one time given up for lost. But destiny had willed otherwise. Only recently a society for the preservation of decayed ancient monuments was formed and 18 pagoda-trustees were legally appointed and repairs taken in hand by them with the help of the Government. Though second to Mahamuni in point of reputation, the monument is the first of its kind, and in its workmanship and design it vies with the famous Anandā and Gawdaw-palin of Pagan. The social and political history of Arakan also cluster around it; and the Arakanese people believe that with its repairs a new era of their prosperity has dawned.

Chapter VII.

The last chapter having dealt with the description of Shithaung Pagoda, it is but appropriate to give an account of the life of its builder, King Min Bah, who is one the most prominent and outstanding figures in the history of Arakan. When the people have almost forgotten the greatness of their forefathers and the deeds achieved by them, and there is the almost entire absence of writers on the history of Arakan owing to the difficulty of access to the palm-leaf manuscripts it is no small task to portray the life of such a king. King Min Bah was a soldier of remarkable ability and, during his father Min Hla Raza's (Shee-sha's) reign

from the year 863-885 B. E., we first find him serving as a military commander. At that time the rebellions of the Thets (Saks) of Parein and of others occurred; these he successfully quelled, when he was entrusted with the task of putting them down. For this he was rewarded with the enjoyment of the Yattaw-din-gye revenue as a special favour; and allowed to reside within the precincts of the palace. He rapidly rose and we next find him Myoza or Governor of Sandoway in the reign of King Thazata who raised him to that dignity partly through the influence of his sister, one of his favourite queens. He was very pious and was a strict abserver of the ten kingly duties. As a king he was kind to all, loved his subjects as he loved his own children; they also loved him as their own parent and spoke well of him either in or out of sight; in fact his was a reign of peace and prosperity. When he ascended the throne in the year 893 B.E.-1531 A. D., the Arakanese nation was at the height of its power and glory. He found himself amidst wise ministers and councillors backed up by a powerful army; and above all, his prime minister Anada-theha or Maha-pyiñña-gyaw (Renowned Wisdom) who was at the helm of state. Soon after his ascension wonderful portentous events took place foreshadowing his future greatness, such as, the unprecedented falling of meteors and stars in the firmament of the sky, violent storm and earthquake followed by entire darkness of the country caused by falling of extraordinarily heavy rain for seven days and nights. He was also a great organizer, possessed of keen thoughts and foresight and was fully awake to the dangers that surrounded his country. The Pyus on the east, the Talaings on the south and the Indians on the north were the principal menacing factors to the safety of his kingdom. He especially heard of the prowess of that dashing soldier-king Tabin Shweti of Taungoo, who was expected to make his sure descent one day upon Arakan. His timely fortifications of the city of Myauk-U and its suburbs embracing a wide area, which entailed a full 70 days journey by land, confirmed his piercing foresight as was proved by the events that followed; and his achievement is not only prominently recorded in history, but also traditionally preserved for 400 years in a trite well-known verse: *စောမ္မဉ္ဇနာမိန္ဒြေတံသိတိ*. (Sawmon was the founder and Min Bah the fortifier of Golden Myauk-U). Traces of his fortifications which still stand to this day are objects which are gazed at by historians and antiquarians with wonder. Like Akbar, the Great, he is known among his people as Min Bah Gri or Min Bah, the Great. As a prince he bore the name of Baw-Saw-theeri and his full coronated title was Theeri-thuriya-sanda-maha-dhama-raza.-Zawbauk Shah.

The first most important act he did was the emancipation of the Arakanese from the thraldom of Bengal, and to recover the twelve states contained therein ceded by King Sawmon about the year 790 B. E.-1428 A. D. in consideration of the help rendered by the Sultan in regaining his throne. The public opinion at the time that the gratitude owed to the Sultan had been sufficiently repaid by the previous 10 kings for a period of 104 years and that no blame whatsoever could be attached to a people who sought their freedom from a foreign yoke was unanimous.

The result was that in the year 894 B.E. 1532 A.D. war was declared against the Emperor of Delhi (Humayun). Three armies consisting in all of over 400,000 men, by three different routes, *viz.* (1) up the Kaladan river (2) by Maungdaw and (3) by the sea, marched towards Delhi. In the decisive action that took place at the town of Kantha in Chittaung, the Crown Prince Moorathein (Moorad Singh) with 10,000 men were surrounded and captured. The Arakanese army then marched up to and encamped at, Dacca. The negotiations that followed resulted in concluding the Treaty of Peace at Delhi whither King Min Bah himself went and got married to princess Pethidā (Pesita) the daughter of the Emperor of Delhi; and thus the two countries were soldered and united into one by the construction of gold and silver roads. The second important event that occurred was the invasion of the Portuguese into Arakan in the year 896 B.E. with a fleet of gun-boats, which first attacked the out-post at Kewe-de, a place lying between Akyab and Rethidaung. The fleet went up as far as U-yin-bok near Myohaung but they retired to a place called Mre-mran where the Arakanese gave battle and were finally driven out to the sea. He then built Shithaung Pagoda where he crowned himself Emperor.

Then the last event was the most determined, unsuccessful invasions of Arakan by Mindara Tabin Shwedi for three successive years, namely 906 B.E. 907 B.E., and 908 B.E. As was expected previously, Tabin Shwedi sent an army composed of Burmese, Talaing and Shan troops to Arakan. It attacked Dwara-wadi (Sandoway) which was defended by its Myoza or Governor Aung Hla, a cousin of King Min Bah with the result that the invading army was defeated. Tabin Shwedi on learning the unfavourable news, got awfully exasperated; and the next year 907 B.E. himself came with a large army and again attacked Sandoway. The result was the same as the previous year. The Arakanese army followed up the defeat and turned it into a rout. Then in the year 908 B.E. Tabin Shwedi made his third and last effort by collecting all his available men, attacked and captured Sandoway. Flushed with victory he and his army both by land and water rushed up and finally encamped at Laung-gret without knowing that the food-supply had been cut off by setting fire to the standing paddy crops at the line of advance. The Arakanese defended themselves from the fortifications of Myauk-U. All remained in suspense for sometime until a part of the Arakanese army went and drew out the Burmese troops, when the first battle was fought at the island of Pokre-gyun (now Popyu-gyun) in the Lemro. The Burmese army which was repulsed turned to the east and attacked the town of Ra-naung, where the defenders again repulsed them. The Burmese army then turned to the west and drew up extending from Maung-swe to Daing-gyi island. There, a pitch battle was fought, and Tabin Shwedi being out-manouvered was finally surrounded and captured. Tabin Shwedi then sued for peace, his life was spared, and in acknowledgement of his defeat he gave to King Min Bah rich presents and a princess of Prome, who was subsequently raised to the

dignity of Myauk-nya-zan Mibaya or queen of the northern palace. Tabin Shwedi who was accompanied by his younger brother Bareng Naung throughout was however not allowed to depart before he was taught a sound lesson by Maha-pyiñña-gyaw, into whose hands the whole matter was placed by the king.

When King Min Bah was about to become king the public opinion expressed in the following verse :

ကြွယ်လှသုံး ဘယ်ရွေးကတည်း။ အကြံကောင်းခြင်းသံတွဲမင်း။ လေတံလယ်လဲတော်သလင်း။ သံတွဲမြွေဟောက်
အစွယ်ပေကြံ။ လက်ကောက်ဝတ်လောက်ပြီ။ မြောက်ဦးရွှေနန်း တောင်သာစွမ်း။ နဂါးမောက်ကြီး ဖြန့်လိမ့်မယ်။
was recited by children all over the country.

Min Bah apparently took the hint, and when king Thazata died, he with 30 fighting boats marched up to Mrauk-U where he was declared king without any opposition.

A MARRIAGE CUSTOM AMONG THE AHKAS AND MYINCHAS.

The description given here is not pretended to apply to all the customs of marriage among the Ahkas. Only one of the customs is described here and it applies to marriage when the parties to it belong to different villages. It usually happens this way. A party of young men usually three (for that appears to be the necessary number) would come to a village where there are eligible maidens. They may be accompanied by an elder, but he does not seem to belong to the party. He comes on his own account to visit friends. At night all these young men will join the young men of the village and will go out to a place appointed for young people to sing love songs and dance. The maidens form a party and the young men form another and they sing in reponse, men together and women together, their customary songs. The two parties stand facing each other and as the young men sing they make dancing steps towards the maidens while their hands are joined, those of one's with those of another's. They come very close to the maidens and step again backwards and the song ends as they regain their starting place. The maidens sing and make similar dancing steps moving towards the young men in a row and after making the approach retrace their steps backwards while singing and end the song as they regain the starting place. They may continue this exciting, pleasurable amusement until midnight when this public interview is closed and the parties may go out two and two for a tête-a-tête interview or what-not. The visitors may amuse themselves this way several nights while one of the young men is making up his mind as to which of the young women he would have for his wife. After this decision he may or may not have an understanding with the girl where and when they should meet by daylight. For courtsey's sake we are to accede that the meeting is by mere chance. She may have been going out to the field for work and she may have both male and female companions. These three young men come out from somewhere or may be accompanying the party out of the village on their way home. But just as soon as the girl is outside the village gate-post, two young men suddenly take hold of the girl's arms, one on each side, and the lover comes from behind and takes hold of her by the waist. Poor girl! she raises a hue and cry, struggles to free herself, attempts to sit down or takes hold of some plants but all to no purpose. She is dragged away by force, but the strangest part of it all is that none of her companions (if she had any) would attempt to help her. They may laugh and jest but not help. Why? If a girl is seized in day-light outside the village gate-post by a young man assisted by two companions it is understood that marriage is intended. A forced marriage? Even should the father and brothers of the girl be present at the spot they have no right to consider the affair as an outrage or to assert their disapproval to the match. Because this takes place *outside the gate-posts* of the village.

So the gate-posts hold an important position in the Ahka village life. They do not only decide matters connected with abduction but also act as a board of health against encroachments of disease as well as promoters of prosperity. The girl is taken to the home of the bridegroom. She is well guarded to prevent her running back home, that is if she was really unwilling. In any way hunger would tame her into submission. Fortunate that this people have never heard of hunger-strike. The first-mouthful of rice taken by her when served by the prospective mother-in-law makes her the wife for better, for worse.

What about the elderly man from this young man's village who went on a visit to some friends in the bride's village? As soon the news spreads in the village that a maiden has been caught and dragged away by three young men the elderly man goes and calls on the father of the bride, arranges about the compensation money to be paid to the father, fixes the date on which a feast is to be given to the villagers, the expenses to be borne by the bridegroom etc., etc.

This custom of the Ahkas compare well with the custom among the Myinchas among when the writer spent five months in the year 1916. The courtship is carried on by lamplight or moonlight while the bride is usually engaged in spinning. They sing their love-songs and when tired of poetry and music may come down to matter-of-fact prose. When the two young people agree with each other they usually try and find out the attitudes of the elders concerned and see that they gain their approval. But the strange part of the story is when everything seems to be in their favour and the path of true love seems smooth they must make the path rough in order to make love true. The young man fixes the day and time when his sweetheart should be just outside her own door. It is illegal (not the custom) to go inside a house and drag out a girl. He sends two confederates about that time who find the girl outside the house and take hold of her by the arms, one on each side and drag her away to the house of the bridegroom. The poor helpless girl cries and cries for help. But a strange deafness has fallen on the villagers and none seems to hear. But they are not blind. They look and smile but do not seem to appreciate that the girl is in grave danger. However, as the girl is dragged into the house of the groom the crossing over of the door-sill makes her his legal wife. This may take place any time in the year but generally it happens between the beginning of the rains and the next harvest. After the harvest marriage feasts are given by one family after another. The feast generally consists of rice, pork, bean-curd, the three indispensables.

The writer asked some of the young wives why if they loved the young men and were willing to be their wives they should pretend the contrary and struggle and cry for help. "Well" they said, "we have to keep up with the tradition. For it is a shame for a woman to be spoken of as willingly going to a man's house out of a desire for a husband."

With the Ahkas it may be a real practice of the motto, "might is right" in many cases. But with the Myinchas it is pure and simple keeping up of the old custom. Both of these customs may have been the remnants of more barbarous times when wives were prizes and men contended in open fields for the hand of a woman; when the battle was to the swift and strong and "none but the brave deserve the fair."

We read in Manukye damathats about four kinds of wives. The wife that is given in marriage by her parents. The wife that has taken a husband of her own free will. Besides these two there are သန့်ရှင်းသား and ဖမ်းရသား. The first of these two is explained as a woman seized during a battle, a war prize, taken as wife later on. The term ဖမ်းရသား is self-explained. Was this class of wives recognized among Burmans in the old days? Was abduction, now criminalized by the Indian Penal Code, a legitimate method once among Burmans for procuring a wife? These questions must be left to the Archaeological scholars to answer.

As to the two tribes whose customs are described here the writer is quite sure that they belong to the Tibeto-Burma family and their dialects are akin to the Burmese. Their customs allow the taking of this ဖမ်းရသား။

With regard to the သန့်ရှင်းသား wife the writer was never satisfied with the explanation connected with fight or battle. The Pwo Karen word -- "thong" and the Shan "hsong" သန့် meant "to lead." It appeared to him that the word simply meant "a wife that was led" as in the customs described above. But a little effort in the way of research confirms the popular interpretation. The word is derived from the Chinese -- "Hsuing," martial.

BA TE

THE WISDOM OF THE ANCIENTS.

The above heading, which I have chosen for the subject of this paper, is neither a misnomer nor a paradox, but a veritable truism inasmuch as the ancients were able and well qualified to read signs, omens and prophetic sayings correctly, and to interpret or evolve a true hidden meaning thereof by their own deductive and inductive methods while we, of the modern times would assign them to the realms of mystery and the unknowable, and would even perhaps placard the credulous as being superstitious to the core.

It has been said of Jivaka Pandit, the Royal Physician to King Bimbisara of Rajagriha and Physician to Lord Buddha, that there was not one plant or tree on the face of the earth which he could not utilise as a medicinal herb for the cure of the ills to which human flesh is heir; and it has also been said that there is always a meaning attached to every notable sign, omen, prophetic saying, widespread praise, uproarious news, phenomenal event or occurrence; but that such meaning is only known to the wise who can fathom the depth of the future by a correct reading thereof. The fault of an incorrect reading lies rather with the person who reads than with the sign. Therein those ancients, who were able to read the signs correctly and who could prognosticate the omens accurately, are really to be admired for their power and ability to tackle these abstruse questions. Such power of deduction and induction from very scanty materials, when properly analysed, does not seem to require the help of a supernatural gift or an extraordinary foresight; and the oft-repeated charge against the ancients that they delivered their prognostications after the fulfilment of the prophecy has no foundation whatever.

One of the surest sources of acquisition of wisdom in this and other directions is undoubtedly the past experience; and the present signs can always be read more or less accurately in the light of the past experience; and that seems to be the guiding principle of the ancients who were supposed to be endowed with supernatural powers, but who foretold by their simple method of deduction and induction.

It was not only in Burma that the ancients were accredited with the power of prognostication of every notable sign; this power or wisdom of the ancients prevailed largely in almost every country the world over, and was early appreciated by the learned and the wise. This appreciation was, however, carried to extremes; and the ignorance and blind credulity of the masses were responsible for the pretensions of the self-appointed prophets of old who were looked upon with such awe and reverence that the crafty prophets began to claim a supernatural gift, and to impose upon the credulous masses. Beginning from the medieval ages, the people had openly and secretly questioned the pretensions of these pseudo prophets, and went to another extreme by discrediting

wholesale all the prophets and their prognostications ; and the dire result has been an almost complete disappearance of the art of prognostication or augury.

Until the close of the last century, Burma could boast of many such wise men who were able to read the signs of the times. It is to be feared that this art may be lost to the future generations if the present attitude of indifference and incredulity be permitted to take its baneful course.

The following is the English version of an old Latin Rhyme composed, most probably, many centuries ago, by one who was able to put into a versified form the (superstitious?) beliefs of the people of England at the time of his writing. Perhaps there are still many who would watch the sky on St. Paul's Day to see if the prophecy of the ancients will come to pass in the year following :—

“ If St. Paul's Day be fair and clear,
It does betide a happy year ;
But if it chance to snow or rain,
Then will be dear all kinds of grain ;
If clouds or mist do dark the sky,
Great stores of birds and beasts shall die ;
And if winds do fly aloft,
Then war shall vex the Kingdom oft.”

The condition of the sky on St. Paul's Day, accepted by the people of England as an omen, auspicious or otherwise, is what the ancients of Burma would call a 'NAMEIK.

In Burma the ancients believed, and a good percentage of the moderns still believe, implicitly, in what are known in Burmese as (1) *Thaik*, (2) *Tabaung*, (3) *Ateik*, (4) *Nameik*, (5) *Bawo*, (6) *Oba*, (7) *Kolahala*, (8) *Mingala*, (9) *Sane* ; but there is a dearth of persons who can read and interpret them correctly as the cultivation of the art is no longer encouraged and appreciated.

- (1) *Thaik* is a contraction of the word *Thaiksa*, a prophecy recorded in most cases in metrical composition—the authorship and date whereof are not generally known or given.
- (2) *Tabaung* means a short song or verse to which wide currency and popularity are given by actors and children.
- (3) *Ateik* is a Burmese corruption of the Pali word *ATITA* and means “ the past.” In this context it means “ the past event ” from which a hidden meaning may be read.
- (4) *Nameik* is another Burmese corruption of the Pali word *NIMITTA*, and means a sign visible to the naked eye or in dreams.
- (5) *Bawo* is a phenomenal occurrence.
- (6) *Oba* means widespread praise.

- (7) *Kolahala* is a Pali word and means "an obstreperous or uproarious news," whether true or false, good or bad.
- (8) *Mingala* is the Burmese mode of pronouncing and spelling the Pali word MANGALA, and taken to mean happiness, joy, auspiciousness, pleasantness, propitiousness.
- (9) *Sane* (spelt Sani:) means news collected or information gathered during the day or the night in various methods which seem very peculiar and "passeth the understanding", of the moderns, and which subject is more interesting than any of the abovementioned.

Now I shall proceed to bare open the pages of history and tradition handed down to us to show how, in the past, the ancients interpreted the notable signs, omens, prophetic sayings, widespread praises, uproarious news, phenomenal events and occurrences.

(1) **Thaik.**

There are various kinds of *Thaik* known as *Paya Thaik*, *Thagya Thaik*, *Rishi Gavampate Thaik*, *Nga Hman Gan Thaik*, *The Brahmin Zagaru's Thaik*, *Nat Set Yaung Sayadaw's Thaik*, *Bonmiya Thaik*.

The *Paya Thaik* (prophecies of Lord Buddha) are to be found in nooks and corners of the *Tripitaka* and mostly in the *Paya Thamaings* (histories of *Cetis* or pagodas). The *Thamaings* contain stories inventively woven by their authors in order to give a hoary sanction to the edifices to which they refer; and may therefore be considered as having a very little historical value.

In the *Sutta Pitaka* Lord Buddha is said to have prophesied, while passing the village of *Pataliputra* (the modern *Patna* in India), that the village shall in the near future (from that date) develop into a Royal City, and that prophecy came to pass when the village was converted into a Royal City by *Asoka*, the Buddhist Emperor of India. This is one of the instances called *Paya Thaik*.

Thagya Thaik is a prophecy uttered by a human being, such as a child, a mad man or an actor, at the inspiration of the *Thagyamin* (*Indra*), the King of *Devas*, so that the people may be forewarned of the coming event. Perhaps the human author, not wishing to proclaim his identity, caused the circulation of his *Thaik* clothed in enigmatical phrases through the medium of children, madmen and actors in those dark days of despotic rule when newspaper and free speech were entirely unknown for the simple reason that he would be criminally punished, if his identity were known, inasmuch as his prophecies related mostly to political events which he thought would happen in the near future.

The *Rishi Gavampate Thaik* and *Bonmiya Thais* refer generally to the finding of treasure troves and to alchemy for converting base metal into gold and silver.

The Brahmin Zagaru and Nat Set Yaung Sayadaw were very learned astrologers, and gave the world the benefit of their calculations.

Both these wise men have prophesied that Burma would be very prosperous in 1247 B. E. (1885) the year of annexation of Upper Burma, and so it was: but their prophecy (နန်းစံလည်းကုန်၊ ငြိမ်းလျော်တုံ့ရွာဘုံဘဝကူးလတန်၊) to the effect that Burma would lose its ruler in 1255 B. E. (1893) proved to have been miscalculated. Burma lost its ruler eight years prior to the date fixed by them. The Brahmin Zagaru flourished during the reign of Thalun Mintayagyi and Nat Set Yaung Sayadaw flourished during the reign of Wunbe Inn San Mintayagyi (about 960-990 B. E. = 1598-1628 A. D.).

Nga Hman Gan was the son of the Brahmin Astrologer to Anawratha who ascended the throne of Pagan in 379 B.E. (1017). His calculations and predictions were believed to be very accurate. Tradition says that he wagered with his own father (whom he did not then recognise as such). When choosing the site of a new palace his father, the royal astrologer, predicted that at midday a kite shall fly over the site and drop a fish which shall land and rest at the spot pointed out by him and that the new palace should be erected on the spot. Nga Hman Gan indicated another and a different place saying that the fish dropped by the kite shall land at the spot indicated by the royal astrologer but that the fish shall finally rest in another place indicated by him. At midday a kite did fly over and drop a fish which landed at the spot indicated by the royal astrologer, but it rolled and rested at another spot indicated by Nga Hman Gan. So Nga Hman Gan won the bet.

Zagaru and Nat Set Yaung Sayadaw have given us certain rules whereby we may read the past and present signs. These rules will be treated of in their appropriate places hereafter.

During the reign of Hanthawaddy Sinbyushin (911-943 B.E. = 1549-1581 A.D.) an Arakanese Astrologer, called Uggasawgyi, aged over 80 years, informed the King that he had discovered a Thaiksa which runs as follows:—

ထီးဖျားကားတောင်၊ ညောင်ပင်းကြိုရင်း။ တပ်ရာနင်းသည်။ ဆောင်းတွင်းနှင်းခေဝေ။ နွေသို့လည်းရောက်။
နန်းသစ်ဆောက်သည်။ နှစ်ယောက်မင်းများနောင်။ တောသမန်တောင်ကျည်။ နန်းလည်းခြောက်ဆောင် ဆောက်လတန်း
ဘိုးတော်တောင်ပါး။ ပတ်ကာနားက။ စန္ဒြေမြို့ကြီးတည်လတန်း။ ရခိုင်စိုးခြင်း။ အနောက်မင်းလည်းရောက်လတန်း။ တန်ခိုးကြီး
စွမ်းစွယ်။ မဟာမုနိရောက်လတန်း။ တရုတ်ကုလား။ နှစ်ပြည်သားလည်း။ ဝင်းစားစက်စိုလတန်း။ ဆုန်ဆင်မွန်။ ရေ
ဝက်လည်း။ ခိုင်းစွန်းသိကြား။ ဆက်လတန်း။ စကြာတွင်ခြင်း။ ထိုသည့်မင်းလည်း။ မြေးရင်းမြစ်ညွန့်ပါးလတန်း။

The following English rendering is a free translation of the above Thaik:—

“Towards the south of Htipaungga and at the foot of the large banian tree shall rest an army whereat, when the season changes from the winter to summer, shall be erected a new palace; and after the reign of two rulers, at Taungthaman and Taungkyi shall be erected six palaces

when a large city shall spring up towards the south of (the palace of the first King's) grandfather: when Arakan will be subjugated: when the ruler from the west shall arrive: when a powerful and a glorious Image of Lord Buddha will arrive: when the builder of the city, the King, shall live long and unperturbed by enemies: when the Chinese and the Indians, citizens of two countries, shall take refuge (in the country) when elephants of the Saddan species will be offered by the ruler of heaven: when the King shall be known as an emperor who shall beget grandchildren and great grandchildren."

Hanthawaddy Sinbyushin then summoned the astrologers and the learned monks, and questioned them if the prophecies contained in the above Thaiksa would be fulfilled after more than a hundred years of his reign. Then he had the Thaiksa recorded for the benefit of his successors.

In 1143 B.E. (1781 A.D.) Badonmin, popularly known as Bodawpaya ascended the throne of Ava when all the prophecies contained in the above Thaiksa were fulfilled. It was during his reign when a new palace and a new city were built at the place indicated in the above Thaik and which city is now known as Amarapura: when the great bronze Mahamyatmuni Image was brought over from Arakan: when Arakan was subjugated, conquered and annexed to Burma: when trade facilities were afforded to the Chinese at Bhamo and to the East India Company. He ruled for 38 years and left surviving him grandchildren and great-grandchildren. He lived to the ripe old age of 75 years. The Hmannan History (the authorised edition) says that Bodawpaya left 61 sons, 61 daughters, 102 grandsons, 106 granddaughters, 30 great-grandsons, 51 great-granddaughters.

It was during the reign of Bodawpaya that two scholars known as U Paw and U No flourished and were made ministers by the King on account of their erudite learning. The latter was also known as Ayudaw Mingala (Royal Auspiciousness) because of his ability to interpret accurately the meaning of the signs, omens, prophetic sayings, widespread praises, uproarious news, phenomenal events and occurrences; and also because of his ability to collect the news by means of the method known as Sanê.

When Bodawpaya's ancestor Alaungphra's dynasty was about to be established at Moksobo a thaik appeared as follows:—

အင်းကို ဟင်္သာ ဆင်းလတန့်။

ဟင်္သာကို မုဆိုးလေးနှင့် ခွင်းလတန့်။

Into the Fishery the Hansa shall fly,

The which the hunter with bow shall destroy.

The wise men of the time read the above Thaik as meaning that the ruler of Hanthawaddy or Hansavaddy (the Talaing country where Hansas, a species of ducks, abound) shall descend into Ava or In-wa (the mouth

of the fishery) when the man whose dynasty is to be established at Moksobo (Man Hunter) shall destroy the Hanthawaddy invader. True to this Thaik the Nyaungyan dynasty established at Ava was extinguished by the Talaings who were in turn exterminated by Alaungphra as testified by History.

(2) Tabaung.

Tabaung is a short song or verse which children and actors sing with great vivacity and vociferousness. In 1113 B. E. (1751 A.D.) Maha Dhammarajadipati, known also as Hanthawaddy Yauk Min, the last of the line of ten kings of the Nyaungyan dynasty who ruled at Ava, was annexed to Hanthawaddy.

In the following year a Tabaung appeared in the guise of a song known as *Ai* (အဲ) which was very widely sung by children and actors. The Tabaung says that a Friday born embryo king shall rule Burma and gives details of the direction from which the embryo king shall appear. The Toungoo Raja, who was appointed Viceroy of Ava, summoned U Aung Ze Ya as the readers of the Tabaung were definite in their prediction that the Tabaung referred to none other than U Aung Ze Ya, and questioned him if he intended to foment a rebellion against the Talaings. U Aung Ze Ya replied that the prediction was the work of his enemies, and so he was exonerated and sent away. Soon after, U Aung Ze Ya, assuming the title of Alaungphra, fought against the Talaings and won almost all the battles and ultimately established his dynasty at Moksobo, the modern Shwebo. The Tabaung in extenso is to be found at page 4, Volume 4, of Thuthodita Mahayazawingyi published by the Thudhammawaddy Press of Rangoon.

When Alaungphra's dynasty was about to disappear a Tabaung was widely sung in the year 1239 B.E. (1877) just one year before the death of King Mindonmin as follows:—

တူးအောက်ကတီတွန်။

လူလွန်သော။

မှူးဆီကျော်အလယ်အက်နဲ့။

ပြည်ဖျက်ခွဲသော။

Underneath the log hissed the earthworm,

The son of a supernun;

The fried pancake with midpart cracked,

He shall cause the Kingdom wrecked.

The prediction contained in this Tabaung came to pass as history testifies. The meaning of the Tabaung may be interpreted and was interpreted at the time, as follows:—

Mindonmin is spelt in Burmese as Mintonmin. In ordinary parlance *ton* means termination, disappearance, extinguishment; but the pun thereof is log or any heavy piece of wood. Beneath the *ton* or after Mintonmin, a Saturday-born prince shall proclaim himself King and

shall rule the country. He is that person who is the son of a nun of the royal blood (supernun); but as the fried pancake cracked in midpart, he shall be the author of the wreck and ruin of the country. King Thibaw's mother became a nun not long after his birth. Thibaw was the only Saturday-born prince at the time whose royal mother became a nun. So the readers of the Tabaung fixed Thibaw as the would-be successor of King Mindon; and Princess Supayalat, on the death of her royal father, chose Thibaw as her spouse and ascended the throne.

(3) Ateik.

The Burmese word Ateik or Ateit comes from the Pali word ATITA and means an event, a happening, a sign which occurred in the past indicating a future event which may be predicted from such a past event.

For example the Ocean Liner Titanic, from the moment of its christening in the Dock, indicated by its name an Ateik that it shall be destroyed in the future in spite of its gigantic size. It was the christening which *ipso facto* indicated an Ateik self-predicting its destruction as, in reading an Ateik in this instance according to the rules applicable thereto, we must necessarily follow the Greek Mythology which says that Titan, in spite of its gigantic size and enormous strength, was defeated by Zeus and thrown into Tartus and doomed eternally in the infernal region.

Another example is the naming of Maung Lwin as Prince Mindon or Minton when he came of age. Mindon is a title given after the town of Mindon (spelt Minton in Burmese). When he ascended the throne as Mindonmin, the wise men of Burma predicated that dynasty of Alaungphra would come to an end immediately after his reign as his title "Minton" means literally THE END OF THE LINE OF KINGS. This prediction came to pass when his son and successor King Thibaw was dethroned by the British and his Kingdom annexed to other British possessions.

Instances such as the above are called ATEIK which had already taken place indicating future events which may be divined from the ATEIK. The ATEIK is generally confounded with NAMEIK; but the above examples will distinguish it from NAMEIK.

(4) Nameik.

Nameik includes Lekkhana and means simply a sign which may be either ominous or auspicious and seen either with the naked eye or in dreams.

Zagaru and Nat Set Yaung Sayadaw have prescribed the following fixed rules *inter alia* for reading and interpreting the following signs:—

- (1) If the right eye brow shakes, you will receive presents.
- (2) If the left eye brow shakes, you will quarrel.

- (3) If bees make a hive at the front part of your house, leave the house. If not, you will come to grief.
- (4) If bees make a hive under the floor of your house, you shall be prosperous.
- (5) If you dream that you saw the sun, the stars or the moon, you shall be glorified.
- (6) If you dreamt that you wore footwear, you shall fall sick
- (7) If you dreamt that you saw clear crystal water, you shall be happy and successful in your endeavours.
- (8) If you dreamt that you saw a dead man, you shall be victorious.

The dreams dreamt on Saturday nights alone may be taken as applying to one self. There are various causes which lead to dreaming. Indigestion, continued illness and like causes will bring on uneasy and frightful dreams. They betoken nothing. Concentrated mind on any subject may bring on a dream on that subject. This too betokens nothing. But if a healthy person dreamt a strange dream, than it may be safely concluded that it appeared to him as a Nameik indicating a future happening of an event to him.

- (9) If a snake lies crosswise in front of you on a road, you must abandon the journey. If not, you will come to grief.
- (10) If you trip and fall or if you by accident strike your head against an object or if some untoward thing happens to you just when you are about to start upon a journey (either short or long) you will meet with a great misfortune if you do not desist from going upon that journey.

U Aung Ze Ya saw a resplendent light like an aureola issuing forth from his right arm before he became King assuming the title of Alaungphra. It was interpreted by his Sayadaw (Spiritual Teacher) that he would be victorious in his arms. His father dreamt a dream that he (U Aung Ze Ya) went up riding on a lion into mid air and alighted after a while and worshipped at a shrine. This dream was taken as a Nameik indicating that he would be raised above the level of the populace; and that he was sure to become a King.

The Buddhist Scriptures say that on the birth of Prince Siddattha, his father King Suddhodana of Kapilavastu, invited eight renowned astrologers and asked them to read the Nameiks of his son. Seven of them, by seeing the Lekkhana or signs on the face, hands, palms, body and feet of the infant, predicted that it would become either a Universal Monarch or a Universal Teacher of gods and men while the eighth and youngest of them predicted definitely that the infant would become a Universal Teacher. The prediction was fulfilled when the Prince attained Buddhahood.

(5) Bawo.

Bawo comes from the Pali word BHAVATI and means in its general acceptation "a happening". In this context it means a phenomenal.

occurrence, such as the appearance of a strange comet, the burning of edifices without any apparent cause, the earthquake of an unusual character; the falling of planets in great quantities; resplendent lights and aureolas issuing forth from images of Lord Buddha and pagodas, notable objects being struck by lightning, appearance of strange animals of the forest in towns, or any other phenomenal occurrence.

Just when Alaungphra was about to die, thirteen objects were struck by lightning simultaneously at Shwebo, the Capital City; the banian trees of the Capital Town blossomed forth into flower; the clouds appeared like a mast; smoke was visible with the naked eye from some planets.

When Singumin was about to be dethroned, in the year 1143 B. E. (1781), myriads of butterflies flew over the capital towards the north; a wild elephant went up to the top of the City wall and fell down from it and died instantaneously; the sky suddenly changed from blue into crimson red. Happenings such as the above are called Bawo.

(6) Oba.

Oba is a widespread praise of individuals, a class of individuals or of Government.

Any kind of praise, whether true or exaggerated, is taken as a good omen which is sure to bring good luck to the person or persons so praised widely. Just before the annexation of Upper Burma the praises of the British Government were widely sung both in Lower and Upper Burma while the despotic government of King Thibaw was decried. The immense popularity enjoyed by the British Government and its continued just rule, which created a widespread Oba, brought in its train the annexation of Upper Burma which was acquiesced in by the whole country with the exception, of course, of a few royalists.

(7) Kolahala.

Kolahala is different from Oba in that it embraces both good and bad news; but such news must be spread far and wide and in an obstreperous manner.

In the year 326 B. E. (964 A. D.) there appeared a widespread Kolahala to the effect that a Minlaung (an embryo king) shall arrive at Pagan. Most probably the people got tired of the Taungthugyi (the Gardener King) who ruled for 33 years under the title of Nyaung-U Sawrahan and who became exceedingly unpopular at the tail end of his reign. The astrologers fixed a certain date as the day on which the Minlaung would appear. On that date the Kunzaw Kyaungbyu Prince, the son of a former deposed king, who was serving the Taungthugyi *incognito* in his capacity as supplier of betel leaves, wishing to see the arrival of the Minlaung, started early in the morning from his home in order to reach the City early, carrying a bundle containing his morning meal. On the way he met an old man who wanted him to take his horse to the City. He refused saying that he wanted to get to the City early in order to see the Minlaung arrive. The old man urged him to take

the horse along with him and to go riding if he wished to reach the City all the quicker. He thereupon undertook to take the horse and came along riding on it. The people were watching like him to see the Minlaung arrive. As soon as he came to the middle of the City the people began to say that the Minlaung had arrived on horseback. The people and the ministers met him receiving him as a befitting royal master and led him into the palace and anointed him King. The Taungthugyi King, hearing of this, got annoyed and said that no one should ever ascend the throne during his lifetime. Thereupon he was struck dead on the spot by some unseen force, most probably by an anarchist in hiding.

One thousand years before the birth of Lord Buddha, there was a Buddha Kolahala (say the Buddhist Scriptures) to the effect that a Samma Sam Buddha would appear in the world to preach the four noble truths in order to deliver mankind to the State of Nirvana. Since then generation after generation of men carried on the Kolahala, expecting, longing, desiring to meet a world deliverer until Lord Buddha appeared when the prediction contained in the Buddha Kolahala was fulfilled.

We have it also in the Buddhist Scriptures that a Kalpa-ending Kolahala forewarning the coming destruction of the world will appear one hundred thousand years before its destruction by fire, water or wind as the case may be.

(8) Mingala.

The Burmese word Mingala comes from the Pali word MANGALA and denotes joy, happiness, auspiciousness and includes sights, happenings, words and actions of a joyous, happy or auspicious character. Seeing of things such as flowers in the morning pleasant to the eye, and hearing of things such as joyous songs and pleasant tidings acceptable to the ears are things of the Mingala type. These Mingala signs are *ipso facto* things denoting a happy augury to the person who sees or hears such things.

The opposite of Mingala is Amingala or Dumingala. Never should one indulge in Amingala or Dumingala.

In the year 268 B. E. (906 A. D.) Nga Kwe, known in history as Sale Nga Kwe, dreamt a dream that he took out his entrails and surrounded the City of Pagan. As this dream was a very strange one, he went to the royal astrologer to ask him the meaning thereof. During the absence of the astrologer he arrived and related to his wife the strange dream. The dame simply told him that he would live long and would be prosperous as any other ordinary man. On the arrival of the astrologer his wife told him as to what took place in his absence. The astrologer at once cut off the top knot of his wife and threw it into the street when it was struck by lightning for its possessor foretold a half truth amounting to an Amingala or Dumingala as the dreamer was not an ordinary man. He at once set out in search of Nga Kwe and found him. He then told him that his wife had predicted to him an Amingala and asked his pardon; and made known to him the real Mingala or joyous

meaning of the dream saying that he (Nga Kwe) would become King of Pagan in a short time. The prophecy of the astrologer came to pass as Nga Kwe became King ere long.

Pleasant sights, pleasant news, pleasant speeches and all things pleasant have from time immemorial been accepted as Mingala up to this very day inspite of the Teaching of Lord Buddha that the real Mingala are those taught by him in the Mangala Sutta.

(9) Sane.

Sane is news collected in a peculiar way. The person sent out to collect the Sane goes out sometimes in the daytime and sometimes in the night. Sane may be collected from the street or from houses or from individuals. The Sane collector generally goes to the house of a couple, neither of whom had married previously as it is believed that it is only from such couples correct Sanes may be obtained. Persons previously married are supposed to hide the truth from each other, and to make known to each other only what is not true as each disbelieves the other.

The time chosen at night is the sleeping time. The Sane collector goes out holding in his right hand flowers or green leaves of Thabye trees.

When Bodawpaya was about to march his army into Siam for invasion, he sent out Ayudaw Mingala to collect Sane. Ayudaw Mingala went out and brought back a song sung by a girl near the Siamese bazaar at Amarapura, and accepted it both as a Tabaung and a Sane. It runs as follows :—

ဘာမထီ၊ မချီလှင်နေညွန့်မျိုး၊ စိုးရခေါင်က။
တဘာကီ၊ စာမရိချီလှင်လှင်၊ ရတက်တော်ပူဗျာဠေ။ တွေ့နေဝင်တာ။
Unheeding, yet not marching,
Shall come to the Sun race the suzerainty ;
But should his Majesty march,
Regret shall be his reward.

Bodawpaya desisted from his project; and in consequence Siam sent in its quota of presents to Amarapura by a way of an acknowledgment of its suzerainty.

On the 11th waning of Tagu 1180 B. E. (1818 A. D.) King Bodawpaya fell very ill while camping at Shwebo after his return from Thiha-taw Pagoda. He asked Ayudaw Mingala to go out and collect Sane as he felt unduly uneasy over his illness.

Ayudaw Mingala went out and brought back as a Sane the following old time song sung by a woman while rocking her child to sleep :—

သွားတော့ယခံဆံ၊ ပြန်တော့ခေါင်းတုံ၊ မပျံ့တွေအေးရာနင်း။
ရှေ့ညာကလာသည့်ရက်တွင်း၊ စစ်ဘက်လို ရှုံ။ အညာဆိုသိဟတောသို့ကိုလူချောသွားရှာလေ။ သားတို့
ဘအေး၊ လွမ်းမိုက်၊ ဆယ်တွေ။
ပြန်ပြန်ရိုလာ၊ ထိုင်ဟန်၊ နိုင်ဟန်နှင့်၊ အညာဆန်ပေါ်အရုပ်ကယ်၊ မိုက်၊ ချုပ်လို့ သွား။
Issuing forth with hair, egad !

Returning, albeit with bristling whiskers, a bald head;
 The day when upcountry he leaves,
 The battle waged results in defeat;
 To the Thihataw upcountry,
 Proceeded the child's father, my beauty;
 The rain of longing showering,
 The morbid love towering;
 While with dejection thus seated,
 The gloom of nightfall succeeded.

Ayudaw Mingala U No interpreted the Sane thus collected as meaning that the illness of his Majesty, who had a thick growth of whiskers, was of a serious character; that His Majesty should return to the Capital with as much haste as possible; and that the illness should be treated with the best remedies possible. U No knew that the case was a hopeless one as the sane gave too direct a meaning which needed no interpreting.

Not long after Bodawpaya reached the Capital he succumbed to the illness.

While Bodawpaya was taken seriously ill, Ayudaw Mingala also fell ill. U No (Mr. Wakefulness) sent out his uncle U Shwe Cho to collect Sane. U Shwe Cho went out at about the sleeping time and brought back the followinwꝑ Sanes : —

He heard an old man recite a meditation formula in Pali thus :—
 “ Maranam me dhuvam marissati ” meaning “ The death which shall overtake me is a certainty ”.

At another place U Shwe Cho heard a Brahmin astrologer teaching his Burman pupil astrology and explaining to him the meaning of “ Sankhan Thonnya ”, the exhaustion of the lucky stars.

At the third place U Shwe Cho heard a woman singing thus :—

နိုးပါနှင့်တယ်။
 သားငယ်ရွှေသွေး။
 မိခင်ကိုခုလွှဲပေးတယ်။
 အိပ်ပေောင်ရွေး။
 Wake not,
 My son, my lustre of gold;
 To thy mother thou art a bore,
 Sleep, my youngest soul.

U Shwe Cho related what he heard to his nephew. U No then collected his children and relatives and preached to them the law of impermanancy and departed this life, never to wake from his last sleep as his Karma had exhausted.

MORE ABOUT PHAULKON.

It is but the outer fringe of Burmese history that touches Constantine Phaulkon. But it does just touch him; he is an attractive figure and, although he has already been introduced to the members of this Society¹ on two occasions a few more notes about him may not be considered out of place. He was, as some readers may remember, a Greek who after an adventurous career entered the service of the King of Siam in 1675 and by 1683 had risen to be "Grand Vizier or Chief Minister to the King of Siam." It was in 1683 that he appointed Samuel White to be "Scabunder (Port Officer) of Tenessery and Mergen." That is how Phaulkon touches Burmese history.

The following notes about him are taken from "The Voyage to Siam," an account of the French embassy to Siam in 1685. The French had made their first appearance in Siam in 1662 in the person of the Bishop of Berythe. Other missionaries followed and their optimistic reports on the favourable dispositions of the Siamese inspired Louis with the hope that to the many triumphs of his reign might be added the conversion of Siam. At that time Louis himself was feeling good. In 1605 Madame de Maintenon, whose discreetly regulated piety allowed her to be at once the mistress and confessor of the King, was rewarded for her virtue and her frailty by the condescension of the King in seeking the blessing of the Church upon their union. In the same year he despatched a diplomatic mission to seal the labours of the professional missionaries in Siam by achieving the conversion of the King. This mission was also charged with making scientific observations especially in relation to geography and astronomy. The Jesuits were then the leading scientists in Europe and six Jesuit priests were sent to conduct the scientific observations. One of these was Father Tachard, to whose account of the mission we are indebted for the information about Phaulkon given in these pages.

Now-a-days it would seem strange enough to choose six reverend fathers to make scientific observations but it appears even stranger that the man chosen as head of the mission in its religious aspect was at the time of selection chiefly distinguished as libertine and had not been ordained a priest.¹ This man was M. de Choisy who although not yet in holy orders accompanied the embassy as missionary coadjutor to the ambassador. He, also, wrote on his return an account of the Voyage to Siam which is better known than the work of Father Tachard. By a whim of his mother de Choisy had been brought up as a girl and until the age of 18 never wore male costume. When he put aside the manners and clothing of a girl he retained an inclination towards female company,

(1) *From China to Peru*, Vol. VII, p. 27; *Samuel White*, Vol. VII, p. 241.

(1) *Journal of the Siam Society*, Vol. VIII, Part III p. 1, *The Abbé de Choisy*.

which the nature of his education allowed him to put to good, or bad, account. He was a general favourite with the ladies and at 22 it occurred to him that he might obtain their favours with less trouble if he resumed female dress. For nearly ten years he continued to masquerade as a woman until put to shame by a public rebuke on his effeminacy administered in the presence of the dauphin. On the principle, as he himself avows, that a man can only do justice to one passion at a time, he abandoned the pursuit of women for the pursuit of wealth and indulged his love of gambling with such assiduity that in a very short time he had lost his whole estate. A severe illness turned his thoughts in a more serious direction and at length, being qualified as a rake, a gambler and a penitent, he was sent to receive the King of Siam into the bosom of the Church before he had himself received powers to admit him. Such a choice would seem strange now, but in those days every thing could be forgiven to a man of rank and Father Tachard thinks it sufficient to remark of M. de Choisy that he was "well known in France by his Birth and Merit." All this is a diversion justifiable perhaps by the strangeness of the tale or, if not otherwise, by the fact that the Abbe de Choisy also wrote an account of the Voyage to Siam which should not be confused with the book of Father Tachard.

Father Tachard's work was published it would seem in 1686. The career of Samuel White has given us occasion to notice the lively interest that Tenasserim and Siam were attracting in England just then from the King downwards. This is further indicated by the promptness with which Father Tachard's book was translated into English under "the express orders of His Most Christian Majesty," James II. It was licensed for publication on August 30th, 1687 and the title page bears the legend "Printed by T. B. for J. Robinson and A. Churchill (sic), and are to be sold by S. Crouch, at the Corner of Pope's Head Alley against the Royal Exchange 1688". The Embassy set sail on 1st March, 1685 and it was not until the 22nd September that they "came in sight of the River of Siam." Obviously the reverend father suffered from ennui on board ship and passed his time writing up his diary. He tells us how there are plenty of Fish about the Equinoctial Line, how Porpoises (sic) devour one another and how the Bonitee pursues the Flying Fish, how Spouts are formed, of the Patience and Piety of the Seamen, and how God grants fair weather at the intercession of the Blessed Virgin; with divers other noble events, and divers others that were only noted to relieve the tedium of the daily round of doing nothing. So that we are nearly half way through the book before we reach Siam. But we meet Phaulkon immediately on arrival and the author introduces him with all formality.

"The Lord Constance is properly called *Constantin Phaulkon*, and so he writes his name. He is a *Grecian* by Nation born in *Cephalonia*, his Father being a noble *Venetian* the Son of the Governor of the Island, and his Mother a Daughter of one of the Ancientest Families of the Country. About the year 1660, when as yet he was but about twelve

years of Age, he had discretion enough to reflect upon the bad condition into which his parents had reduced the Affairs of his Family. The thought of that made him take a Resolution that could hardly be expected from a Child of his years. Not being able to support his quality in his own Country (sic) he went on Board with an *English* Captain, who was returning into *England*. His wit and sprightliness, his compliant humour, and agreeable Carriage quickly made him be known and gained him the kindness of some of the Lords of Court, but despairing of success there, he went to Sea with a design to go to the *Indies*. His purpose was to raise his Fortune, his Genius put him in the way of it, and if his probity had been less, he might in a short time have got considerable Estate. But he chose rather to pass through all the degrees of Seafaring, and to rise by little and little with Reputation, than to hasten to be Rich all of a sudden by sneaking and unlawful ways.

"Having lived some years at *Siam*, and scraped together a little Estate he resolved to quit the Service of the *English East-India-Company*, to get a Ship of his own, and to Trade by himself. He had much ado to get out of *Siam*, being detained by his Friends, and by his effects which he could not as yet get in. At length he put out, but was beaten back again by bad weather, and was cast away twice in the mouth of the River.

"Putting out again to Sea once more, he was Shipwrecked a third time and much more unfortunately, upon the Coast of *Malabar*; he was in danger of having perished there and could not save of all he had above two thousand Crowns. In this sad condition being oppressed with sorrow, weariness and sleep, he had laid himself down upon the Shore, when, whether he was asleep, or awake, for he hath protested to me oftener than once he could not tell himself, he thought he saw a Person full of Majesty, who looking upon him with a smiling eye, most mildly said unto him; *Return, Return from whence you came*. These words so wrought upon him, that it was impossible for him to sleep all the rest of the night and his thoughts were wholly taken up about finding a way to return to *Siam*.

"Next day whilst he walked by the Sea side, musing upon what he had seen in the night time, and uncertain what to think of it, he saw a Man coming towards him dripping wet with a sad and dejected countenance. It was an Ambassador of the King of *Siam* who upon his return from *Persia* had been cast away, without saving anything but his life. Since both of them spoke *Siamese*, they soon acquainted one another with their adventures. The Ambassador discovered himself and told what extreme necessity he was reduced to. The Lord *Constance* condoling his misfortune, offered to carry him back to *Siam*: and with the two thousand Crowns that he had saved after his Shipwreck, he bought a small Barque, cloaths for himself and the Ambassador, and Victuals for their Passage. This so obliging a Conduct charmed the Ambassador of *Siam*, who from that time forward cast about every way how he might testify to him his gratitude."

"When they arrived at *Siam*, and that the Ambassador had given account of his Negotiations and Shipwreck to *Barcalon* who is the first Minister of State in the Kingdom, he told him all the good Offices which he had received from *Monsieur Constance*, with so great applause to his merit, that the Minister had a mind to know him. He entertained him in discourse, liked him, and resolved to keep him about him; where he soon gained the confidence and esteem of his Master. This *Barcalon* was a witty Man, and well versed in business, but he avoided trouble as much as he could and loved his pleasures. It ravished him that he had found an able, faithful and industrious person on whom he might repose the cares of his place. Nay he often spoke of him to the King; but that which contributed most to beget a good Opinion of him in the mind of that Prince, was the occasion that I am about to relate.

"The King of *Siam* had a design to send an Ambassador into a Foreign Kingdom; and seeing he loves Magnificence and Grandeur, he was willing to spare no cost that he might render it famous by rich and splendid presents. The *Mores* to whom he usually addressed himself on such occasions, demanded of him prodigious sums of Money to set out that Embassy in the manner he desired it should be. The *Barcalon* to whom the King complained of it, told it to the Lord *Constance*, who promised him, that if the King would honour him with that Commission, he would make much finer presents, and at less Charges than what the King offered the *Mores*. The King being informed of this, sent for him; and charged him with his orders. He obeyed them with so much exactness and good success, that from that time his Majesty conceived a great esteem of his ability. The *Mores*, in the mean time, taking it ill that they had not the sum which they demanded given them, presented a Petition to the King, praying him to order them payment of the Money which his Majesty owed them. In that Petition they had given a particular account of what they had received, and what they had laid out. So that according to their account he stood indebted to them in a great sum, which, as they said, they wanted. The King would hereupon know the opinion of the Lord *Constance*, and put the memoirs of the *Mores* into his hand, so soon as he had examined it, he told the King that he was cheated, and that his Majesty was so far from owing them any thing, that they stood indebted to him in threescore thousands Crowns. The *Morish* Captain was fain to acknowledge it before the Commissioners whom the King deputed to enquire into the business, that they had been mistaken in their accounts.

"The *Barcalon* dying not long after, the King would needs put *Monsieur Constance* in his place. He declined it, and made answer to his Majesty, that that post would raise him the envy of all the great Men, that he most humbly besought him not to raise him higher than he was, for that was all his Ambition, being happy enough in that he stood fair in his favours. His modesty, his skill in affairs and diligence in despatching them, his Fidelity in managing the public Revenues, and his disinterestedness in refusing both the appointments of his Office, and all

presents from private people, have more and more encreased the King's confidence in him. At present everything passes through his hands, and there is nothing done without him. However his greatness hath not at all changed him, he is easie to be spoken with, mild and affable to all People, always ready to listen to the poor, and to do justice to the meanest of the Kingdom. He is the refuge of the wretched and afflicted; but the great Men and Officers who do not do their Duty, think him severe and morose.

"Seeing he left his own country when he was young, and by consequence but little instructed in the Catholic Religion, wherein he was bred, it was no hard matter for the *English* to make him embrace the Protestant Religion, which seemed to him to differ but little from his own. But having had since some Conferences with Father *Thomas* and Father *Maldonat* of our Company, for whom he still retains a kind Friendship, and being convinced in his own Judgment of the bad way he had been put into, after full instruction he left it, and abjured his Here-sie to Father *Thomas*. Since that time he hath led a very regular and edifying Life, and by his Examples and Credit contributes much to the establishment of the Catholic Faith, as will appear by the Sequel to this History."

But the Embassie was after larger fish than Phaulkon. The cause of the Embassie was the conversion of the King of Siam. It was known to all that the King had publicly said to my Lord Ambassador that he was in hopes, that by his prudent Conduct he would accomplish that great work which was so far advanced. How far the good work really had advanced and how far my Lord Ambassador was able to further it will also appear "in the Sequel of this History."

It took the mission a fortnight to get up from Bancoek to Siam i.e. Ayuthia where they called on this French Bishop.

"From thence we went to the House of Father *Suarez*, the only Jesuit that was then at *Siam*; Father *Maldonat* being gone for some time before to *Mecao*, from whence he was to return towards *March* following. We passed by the French Factory, and there saluted the Officers of the Company. Then we were conducted to the Palace which was preparing for my Lord Ambassador; where we met with the Lord Constance, the first, or to say better, the only Minister of the Kingdom. We knew before that he was a man of Merit, and had a kindness for us; but we had the experience of both far beyond our expectation. In that first Interview, he gave us many Testimonies of Goodness; we thanked him for the *Balon* which he sent to meet us, and for the Chambers that he was pleased to order to be built for us near to Father *Suarez*, whose house was too little to accommodate us with Lodgings. He told us that it was pleasure to him to oblige us; and that he did but his Duty, when he built an

The Lord Constance receives the Jesuits with extraordinary goodness.

Appartment for his Brethren (for so he did us the honour to call us) seeing he could not lodge us in his own house; that moreover he expected more Jesuits, whom he had demanded from the Father General at least a year ago. Then he showed us all the Appartments of the Ambassador's Palace, which we thought very handsome and neat."

Their early days were occupied with making arrangements for a ceremonial call upon the king. The king of his own motive (prompted, one feels, by Phaulkon) was willing that the Ambassador should wear his sword and sit at the audience "which had never been before granted to any ambassador." Phaulkon was commissioned to announce his Majesty's condescension.

"The Lord Constance thought himself much honoured by that Commission, and came to wait on his Excellence. After their first Compliments *M. de Chaumont* spoke of the King's Conversion as the chief Subject of his Embassie. The Lord *Constance* seemed astonished at it, and told the Ambassador, that it was the thing in the World which he most desired, but that there was no appearance of effecting it; that the King was extremely addicted to the Religion of his Ancestors, and that he would be strangely startled at an Overture for which he was not at all prepared; that he adjured the Ambassador not to speak of that Affair, which without doubt, would cause Disorder in the present junctures, and could produce no good. The Ambassador made answer, that he would consider of it, but that he could hardly suppress the most considerable, and almost Sole Reason of his Voyage."

Phaulkon managed to stave off the difficulty; he wanted to enhance the credit of the Europeans with his royal master, but any open attempt of the Ambassador to explain the purport of his mission would do no good and might seriously annoy the king while it would certainly impair Phaulkon's reputation for common sense. But he was a tactful man.

"The Lord *Constance*, who is no less ready to embrace the Occasions of advancing the Glory of God, than of procuring Advantages to his Master, communicated to us another View, which he thought might contribute much to the Conversion of the *Siamese*. He pretends that if once their Esteem and Affection can be gained by Zeal, Meekness and Learning, it will be no difficult matter to dispose them to hearken to Instruction: That he thoroughly knew the temper of that Nation, and no man better; why Christianity hath made no greater progress at *Siam* after so many years endeavours of having it planted there; that besides the Observatory, there must be another House of Jesuits, where they should as much as lay in their power lead the austere and retired Life of the *Talapoins*, that have so great credit with the people; that they should take their

Habit, visit them often, and endeavour to convert some of them to the Christian Religion ; that in short, it was well known how that Conduct had succeeded with the *Portuguese* Jesuits who are at *Madura* towards *Bengal*."

This suggestion attracted the missionaries but the Ambassador himself had been sent to convert the king and not to dress up like a pongyi and he still agitated for permission to address the king on the advantage of Christianity. When the scheme failed Phaulkon endeavoured to postpone the evil day by a succession of strange and gorgeous spectacles.

"Amidst all those diversions the Ambassador was wholly taken up about the Subject of his Embassie, which was the Conversion of the King ; but perceiving that he had no solid nor positive answer as to that, he resolved to draw up a short memoir, which he intended should be presented to the King by the Lord *Constance*. He spoke of it to that Minister, who in a long conference they had together dissuaded him from pressing the King upon that point ; but the Ambassador very prudently still persisted in his opinion, and prayed the Lord *Constance* to present that writing to his Majesty, wherein he besought him to give him a positive answer that might be acceptable to the King his Master. The Lord *Constance* having received the Memoir from the Ambassador, went to the Palace in the Evening, and there prostrating himself at the King's feet, made him a discourse full of that *Asiatic* Eloquence that was so much esteemed in ancient *Greece*. Here you have a true translation of the very words he used.

Sir,

The Ambassador of France hath put into my hands a Memoir, which contains certain propositions whereof The Harangue of the Lord *Constance* to the King of *Siam*. he is to give an account to the King his Master ; but before I read it to your Majesty, suffer me, Sir, if you please, to lay before you the principal motive that engaged the most Christian King to send you so solemn an Embassie. That so wise a Prince, your good Friend, Sir, knowing the greatness of your Soul and the generosity of your Majesties Royal heart by the Ambassadors and Magnificent Presents which you designed for him, without other interest than that of desiring the Royal Unity of a Prince so Glorious, and so Renowned over the World : and then perceiving that your Majesties Ministers had sent to the Ministers of his Kingdom two Mandarins with considerable Presents to congratulate the birth of the Grand-son of their great King, worthy of a perpetual Posterity, which may eternally represent to France the Image of his admirable Virtues, and secure the happiness of his People. That great Monarch, Sir, being surprised by so disinterested a procedure resolved to answer those obliging cares, and to do so, devised a means worthy of himself and suitable to the dignity of your Majesty ; for to present you with Riches ; it is in your Kingdom, Sir, that Strangers come in search of Wealth. To

offer you his Forces ! He knew very well that your Majesty is dreaded by all your Neighbours, and in a condition to punish them if they should offer to break the Peace which by their prayers they have obtained from you. Could he have thought of bestowing Lands and Provinces upon the Sovereign of so many Kings, and the Master of so great a number of Kingdoms, as make almost the fourth part of Asia ; Neither could it enter into his thoughts to send hither his Subjects only upon the account of Trade, because that would be a common Interest to his People and your Majesties Subjects. So that it would have been hard for him to have hit upon the right course, had he not reflected that he might offer to your Majesty somewhat infinitely more considerable, and which, was congruous to the Dignity of two so great Kings. Having considered what it was that had raised him to that high pitch of Glory where at present he is seated, what had made him take so many Towns, subdue so many Provinces and gain so many Victories, what to this present had made the happiness of his people, and what had brought him from the extremities of the Earth so many Ambassadors of Kings and Princes who Court his Friendship, what, in fine, had obliged your Majesty to prevent this incomparable Prince by so splendid an Embassie which you sent to him ; Having, I say, attentively considered all those great things, that King so wise and perspicacious, found that the God whom he adores was the sole Author of them, that his Divine Providence had so disposed them for him, and that he owed them to the intercession of the holy Mother of the Saviour of the World, under whose Protection he hath consecrated his Person and Kingdom to the true God. That view and the extream desire he hath to communicate to your Majesty all those great advantages, hath made him resolve to propose to you, Sir, the same means that have procured him so much Glory and happiness, and which are no other than the Knowledge and Worship of the true God, which is only to be found in the Christian Religion. He offers your Majesty then, by his Ambassador adjuring you and your whole Kingdom to embrace and follow it.

That Prince, Sir, is more admirable still by his Wisdom, Judgement and Prudence, than by his Conquests and Victories. Your Majesty knows his generosity and Royal Friendship, you cannot make a better choice than to follow the wise counsels of so great a King your good friend. For my part, Sir, I never begged any thing of the great God for your Majesty, but that Grace, and I would be ready to lay down a thousand lives that I might obtain it of the Divine Bounty. May it please your Majesty to consider that by that action, you will Crown all the great and Illustrious exploits of your Reign, you will eternize your Memory, and procure to your self immortal Honour and Glory in the next World.

Ah, Sir, I adjure your Majesty not to send back the Ambassador of so great a King with discontent, he begs that in the name of the King his Master, for establishing and rendring your Alliances and

Royal Amities inviolable; at least if Your Majesty hath entertained any good thought, or if you find the least inclination to embrace that Party, that you would make it known. It is the most acceptable news that he can carry to the King His Master. Now if your Majesty hath resolved not to condescend to what I have had the honour to represent to you, or that you cannot give a favourable answer to the Ambassador, I beg of you to excuse me for carrying your Royal answer, which cannot but be displeasing to the Great God whom I adore. You ought not to think it strange that I speak to you in this manner, whosoever is not faithful to his God cannot be so to his Prince, and your Majesty ought not to do me the honour to suffer me in your Service, if I entertained other Sentiments.

The King took all this better than Phaulkon had expected; but he replied at once that it seemed strange for the King of France to be so much busier on God's business than God himself who had seen no reason to interfere with the religion of the Siamese for over 2,000 years. For his part he left such things to God. "The King having

The Lord Constance his Reply to the King of Siam's Objections about changing of Religion.

said so, was silent for sometime, and then eyeing the Lord Constance *what do you think (added he) the Ambassador will answer these Reasons which I command you to give him in writing?* I shall not fail Sir, answered the Lord Constance to obey your Majesties Orders; but I cannot tell what the Ambassador of France will answer to what you have now said to me, which seems to be of very great weight and consequence. Sure I am, he must needs be surprised at the high wisdom and wonderful perspicuity that he'll perceive thereby in your Majesty." Phaulkon proceeded to urge some consideration on behalf of Christianity which Father Tachard strongly approved when they were related to him. "This answer" he writes, "from a Man of no Studies, who from ten years age had been applied to Trade and Commerce, wrought a great surprize in me, when he did me the honour to acquaint me with it. I confessed to him, without any fear of flattery, that a Divine consummated in the Study of Religion, would have been hard put to it to have answered better. The King was smitten with the discourse of the Lord Constance, and if any knowing Man, who is acceptable to him, hath the happiness to insinuate into his favour, and procure his esteem, it is not to be dispaired but that he may be brought to know and embrace the Truth: and if once he come to know it, seeing he is the absolute Master of his People, who adore him, all the Nations who are under his Dominion, will humbly follow his example."

That was as far as the missionaries ever got towards the fulfilment of their mission. They thought it "strange that the gospel should make so small Progress amongst People, who are zealously and carefully cultivated, who daily see the Majesty of our Ceremonies, so proper for giving an Idea of our Mysteries, who besides have no vice that may make them dislike our maxims and who have so great an esteem for the

Talapoins, because they make profession of an austere life." It was not as if the Siamese were fools or had anything "of blochishness and renticity." In effect, they left the problem where the King of Siam had left it: it did not belong to them "to pry into the second Judgment of God." Meanwhile they could pray to God and put their trust in Phaulkon. The embassy had failed in its mission; the King remained a Buddhist but they had "good ground to hope for the best, like rather that the Lord Constance his Minister is equally able and pious, wanting neither good intentions to forward Designs that are honourable for Religions, nor in trust and credit to make them successful."

With these words Father Tachard's relation of his Voyage to Siam ends. Barely two years had elapsed when the missionary efforts of the French and the suspected favour of the king for Christianity led to a revolution on which the French, Phaulkon and the king were all overwhelmed together in a common ruin.

It seems worth while adding a final note to say that the Siamese are reported to have worn "Longuis which is a piece of very simple stuff about two ells and a half long and three-quarters of an ell broad. They put this longuis about their body, so that it makes as it were, a kind of coat reaching from the girdle below the knee, but the womens (sic) comes down as low as the ankle". The Siamese now wear the *panung*, the Malays wear the *sarong*, and I had always thought *longyi* to be a Burmese word. But what language then is "*longuis*"?

J. S. F.

ART AND MYSTICISM

Everyone knows 'Tyger, Tyger!'. During the last twenty years or so, many English men and women have been stirred at some time or another and in greater or less degree by the challenge of Blake to build Jerusalem. But that is about as much of Blake as most people know. Every one who has been led on to glance at the longer poems must have been struck with dismay at finding them, superficially at least, so unintelligible. Still, even the superficial reader, casually turning over the pages of Blake's works in the hope of finding something comprehensible can hardly fail to light on some tremendous saying that, if it means anything at all, means such a lot. We are told by students of Blake that what he says means all, and more than all, it seems to mean. We are given keys to the world within,

Opening its gate, and in it all the real substances.

Of which these in the outer world are shadows which pass away.

But to use these keys, and to learn our way about this world requires more than common fortitude and perseverance even in an English man: that a Burman, starting with all the disadvantages of an alien tongue and alien traditions, should be able to thread the maze is sufficiently astonishing, and that he should do so with such assurance as Mr. Ba Han displays in his study of *William Blake: His Mysticism* (10s.) is a feat of remarkable distinction.

The book is divided into three parts. In the first part the author sketches, briefly but sufficiently, the historical setting of Blake's work. He recounts the salient features of his life and analyses his position in English philosophy and thought. In the second part he expounds Blake's fundamental theories. Much work has been done on these since Swinburne revealed Blake's genius in his well known essay and the strictly logical consistence of his mythology is now generally appreciated. But, Dr. Berger, whose competence to judge in such a matter is unquestionable, tells us in his sympathetic preface that Mr. Ba Han has gone further than any of his predecessors towards unravelling the difficulties which a student of Blake has to encounter. A notable feature of this second part is a study, section by section, of the three great prophetic books, *Vala*, *Jerusalem* and *Milton*. Mr. Ba Han gives us an analysis of each section and, what is still more valuable, an outline of the leading ideas.

But these two parts are preliminary investigations leading up to the third part, the main theme of the book: a study of Blake as mystic. The mystical experience is ordinarily regarded as characteristic of the religious imagination. Mr. Ba Han traces in the life of Blake the normal features of mystical experience, but shows how Blake approaches it through art. With Blake the mystical experience was not an activity or exercise of the religious imagination but of the aesthetic imagination.

The mystic, like the ghosts in Rupert Brooke's psychical research sonnet is 'immediately wise'. He struggles after reality, may struggle, as Blake did, for twenty long years of darkness, but when at length he attains his goal he does so certainly. He knows. Listen to Blake. "I have in these years composed an immense number of verses in one grand theme I have written them from immediate dictation, twelve or sometimes twenty or thirty lines at a time without premeditation, and even against my will . . . and an immense poem exists which seems to be the labour of a long life, all produced without labour of industry." (p. 171) Or, again, take his drawing of the Ghost of a Flea. "I asked him" writes Varley, "if he could draw for me the resemblance of what he saw. He instantly said, 'I see him now before me'. I therefore gave him paper and a pencil, with which he drew the portrait of which a facsimile is given in this number. I felt convinced, by his mode of proceeding that he had a real image before him; for he left off and began on another part of the paper to make a separate drawing of the mouth of the Flea, which the spirit having opened he was prevented from proceeding with the first sketch until he had closed it. During the time occupied in completing the drawing, the Flea told him that all fleas were inhabited by the souls of such men as were by nature blood-thirsty to excess, and were therefore providentially confined to the size and form of insects; otherwise, were he himself, for instance, the size of a horse, he would depopulate a great portion of the country" (p. 58). (Here, perhaps, we have an explanation of the mosquitoes in the Delta; what a bloodthirsty set the former inhabitants must have been!) For Blake, then, the artistic vision is not 'a cloudy vapour or a nothing'. It is 'determinate and perfect.' Indeed it is 'organised and minutely articulated beyond all that the mortal and perishing nature can produce'. This is due to the fact that the artist copies not nature but imagination which "is a representation of what actually exists really, and unchangeably" (p. 95). As artist, Blake has attained reality. He knows.

Mr. Ba Han's study, then, is valuable, not only for the light it throws on Blake but as a contribution to the theory of mysticism. William James, in his *Varieties of Religious Experience*, showed how a simulacrum of the mystical experience can be achieved by drugs. But, as we have suggested previously in a review of Dr. Ba Maw's *Buddhist Mysticism* (JBRS XV, p. 89) such a phenomenon appears distinguishable from the true experience in being sterile. This view is supported by Benard Shaw's account of his recovery from anaesthetics, when he noticed that his critical intellectual faculties return to consciousness later than his emotional faculties. But the mystic transcends reason rationally. This is apparent in the Christian mystics, and even more clear, as may be seen in the work of Dr. Baw Maw just cited, in the Buddhist mystics. The experience of Blake, however, seems identical with that of the religious mystics, not only in its external characters but in its result. It was not sterile but fruitful; it was through his mystical experience, and through that only that Blake achieved the perfection of his art. Other poets have written from dictation, as Coleridge wrote

Kubla Khan. And all poets, or almost all, have claimed to be at times and in greater or less degree inspired. Think again of the efforts of Cézanne de pouvoir réaliser ! 'Peindre 'd après nature, ce n'était pas copier l'objectif, mais seulement réaliser ses sensations.' Compare this with Mr. Ba Han's remark that according to Blake 'the artist copies not nature but imagination'. There is, however, one distinction between the aesthetic and religious mystic, and that distinction is fundamental. The artist as mystic is stupendous egotist, his personality expands until it embraces the whole universe; the experience of the religious mystic is a sublime abandonment of self.

But we can best do justice to Mr. Ba Han's views by attempting to summarise them briefly. He finds that with Blake, as with the religious mystic, the crown of the mystic effort is a sense of completed achievement as well as a sense of peace and power, but that he is in complete opposition to the Christian mystic for whom God is the Supreme Being who is distinct and separate from himself, as well as to the Buddhist mystic who eliminates both God and the soul. His second conclusion is that the artist who considers art as essentially religious and pursues it with profound fervour achieves an experience that is purely mystical. Finally, he finds that Blake's mysticism is characterised by taking a sunny view of life.

As Dr. Berger remarks, Mr. Ba Han has made a great step in the scientific study of Blake. The book, he says, "has all through the qualities that the French universities require of their students: accuracy of facts, intimate knowledge of the subject, numerous references to texts and authorities, clearness of exposition, logical order and arrangement in the argument, absence of anything that is merely fanciful and ungrounded, in fact all the qualities that make a book reliable and useful to future students". It would be superfluous to add our own humble commendations. But we can reflect with pleasure that some of Mr. Ba-Han's earliest work was published in the pages of this Journal, and we would venture to express a hope that, now he has returned to Burma, he may find leisure for further contributions.

J. S. F.

PROCEEDINGS

OF THE

BURMA RESEARCH SOCIETY.

—o—

Minutes of a meeting of the Executive Committee held at the University College on Friday, the 18th December 1925 at 6-30 p.m.

P R E S E N T.

1. J. S. Furnivall, Esq., I. C. S. (retd.) in the Chair.
2. C. W. Dunn, Esq., C.I.E.
3. S. G. Grantham, Esq., I.C.S.
4. U Tun Pe, M.A.
5. U Po Sein, A.T.M.
6. Prof. Pe Maung Tin, I.E.S.
7. Prof. G. H. Luce, I.E.S.
8. A. Cassim, Esq., (*Honorary Secretary*).

1. Confirmed the minutes of the meeting of the Executive Committee held on the 3rd April 1925.

2. Recorded the minutes of the meeting of the Dictionary Sub-Committee held on the 18th October 1925 and a letter dated the 26th October 1925, from Mr. H. F. Searle.

3. Recorded the minutes of the Sixteenth meeting of the Text Publication Sub-Committee held on the 6th August 1925.

4. Regarding the printing *in extenso* by the *Rangoon Gazette* of a paper read to the Society.

Resolved (i) that the papers be recorded, and (ii) that for the future the question of reporting papers read at the Society's general meetings be left to the discretion of the Society's editors.

5. Considered Mr. Duroiselle's request to be supplied with a dozen copies of the Society's edition of Maung Kala's Mahayazawingyi.

Resolved to instruct the Text Publication Sub-Committee to supply twelve copies to Mr. Duroiselle provided that if any expense is involved he consents to bear it.

6. Resolved that pending the election of Officers at the next Annual meeting Mr. J. Furnivall be appointed President of the Society in place of Sir James Mackenna proceeded on leave,

7. Agreed to Prof. Pe Maung Tin's proposal to appoint Messrs. Probsthain & Co., London, agents in Europe and America for the sale of publications issued by the Text Publication Sub-Committee on the same terms as arranged with them for the Journal.

At this stage, Mr. Furnivall left the meeting temporarily for the discussion of the next item, and Mr. Luce was voted to the chair.

8. Considered the request of the Burma Book Club to be appointed local agents for the sale of the Society's publications.

Resolved to reply that the Society had no reason to be dissatisfied with its present arrangements with the British Burma Press for the sale of its publications, but that it had no objection to the Burma Book Club making its own arrangements with the British Burma Press to obtain its supplies of the publications.

9. *Resolved* to circulate to the Executive Committee the opinions received from the members of the General Committee in regard to Mr. Harvey's proposals about page-headings of the Journal and reprints for contributors.

10. *Resolved* that Prof. Pe Maung Tin be requested to submit for the consideration of the Executive Committee a detailed proposal with regard to his suggestion for the award of a triennial gold medal by the Society.

11. *Resolved* to requested Prof. Meggitt to submit to the Committee detailed proposals to obtain a subsidy from the Government for the scientific numbers of the Journal.

12. *Resolved* to inform U Tin (2), K.S.M., A.T.M. that the Committee regrets it cannot see its way to purchase his surplus stock of the Kabyabandhathara Kyan.

13. The fixing of the date for the Annual meeting was left to the Honorary Secretary.

Minutes of a meeting of the Executive Committee held at the University College on Tuesday, the 2nd March 1926, at 6-30 p.m.

P R E S E N T

1. J. S. Furnivall, Esq., I.C.S., (retd.) President (in the Chair)
2. Prof. G. H. Luce, I.E.S.
3. Prof. Pe Maung Tin, B. Litt., I.E.S.
4. U Po Sein A.T.M.
5. U Tun Pe, M.A.
6. Dr. G.R.T. Ross, M.A., D. Phil., I.E.S.
7. S. G. Grantham, Esq., I.C.S.
8. Prof. F. J. Meggitt, I.E.S.
9. Prof. W. N. Elgood, I.E.S.
10. A. Cassim, Esq., (*Honorary Secretary*).

1. Confirmed the minutes of the meeting of the Executive Committee held on the 18th December, 1925, with the amendment that in Item 8 "journals" be substituted for "publications."

2. Recorded letter No. 553U25 dated the 22nd January 1926 from the Government sanctioning a grant of Rs. 2,500 per annum for 4 years towards the Dictionary.

3. Approved the Honorary Secretary's draft of the Annual Report.

4. Resolved to invest (i) Rs. 4,000 for 3 years with the Upper Burma Provincial Co-operative Bank (ii) Rs. 2,000 for 6 months at Dawson's Bank, and (iii) Rs. 1,000 repayable at short notice in Savings Bank Account at the latter Bank.

5. Made arrangements for the Annual Meeting on 8th March.

6. Considered Prof. Luce's proposal to amend Rule 13.

Resolved that the amendment of Rule 13 to read as follows be placed before the next General Meeting for consideration:—

"For any meeting of the Executive Committee five members shall constitute a quorum. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting shall stand adjourned to the same day in the next week at the same time and place and if at such an adjourned meeting a quorum is not present those members who are present shall be a quorum and may transact the business for which the meeting was called."

7. Fixed Rs. 7/8 as the sale price of copies of the "Glass Palace Chronicle" for non-members.

8. Sanctioned a grant of Rs. 500 to Prof. Luce for the purchase of books for the Society's library.

9. Considered Prof. Luce's suggestion to have the latter half of the second Chinese number printed in Europe.

Resolved that the matter be left to his discretion.

10. Considered letter dated the 1st February 1926 from U Po Byu asking to be permitted to publish in book form certain contributions of his to the Journal.

Resolved to grant permission provided that due acknowledgements are made to the Society and the works issued as part of the Text Publication Series.

11. Resolved that Messrs. G. Coedes and A. Waley be invited to accept the position of Corresponding Member of the Society.

12. Considered and approved Prof. Luce's note on the Dictionary scheme and resolved that action be taken at the General Meeting to give effect to his proposals.

13. Resolved to send Messrs. Probstain & Co., London, one copy each of the publications issued by the Text Publication Sub-Committee with a statement of the local price and to enquire the terms on which they would be willing to act as the foreign agents for them.

Minutes of a meeting of the Executive Committee held at University College on Tuesday, the 30th March 1926, at 6-30 p.m.

P R E S E N T

1. The Honorable Mr. Justice U Ba, B. A., President (in the Chair.)
2. C. W. Dunn, Esq., C.I.E., I.C.S.
3. W. G. Fraser, Esq., M.A., I.E.S.
4. Prof. Pe Maung Tin, B. Litt., I.E.S.
5. D. J. Sloss, Esq., C.B.E., I.E.S.
6. Prof. F. J. Meggitt, I.E.S.
7. S. G. Grantham, Esq., I.C.S.
8. U Po Sein, A.T.M.
9. A. Cassim, Esq., B.A. (*Honorary Secretary.*)

M I N U T E S .

1. Confirmed the minutes of the meeting of the Executive Committee held on the 2nd March 1926.

2. Elected the following to form the Sub-Committee for 1926:—
S. G. Grantham, Esq., U Tun Pe and U Po Sein.

3. The following were elected to form the Text Publication Sub-Committee for 1926:—Prof. Pe Maung Tin, U Tun Pe, Mr. A. Cassim, U Tin, K.S.M., A.T.M. and Mr. J. A. Stewart, I. C. S.

4. The Advisory Board to the Text Publication Sub-Committee to consist of:—U Po Sein, Saya Lin, A.M.P., and Saya Pwa.

5. *Resolved* that with a view to give wider publicity to the Dictionary project, the Secretary, Dictionary Sub-Committee, be requested to prepare a circular on the subject and to send it with the Instructions to Readers to the Honorary Secretary of the Society to print.

6. Recorded letter No. 242/D. F. dated the 8th March 1926 from Mr. J. A. Stewart, and approved the Honorary Secretary's action in connection with it.

7. Considered a letter dated the 5th March 1926 from the British Burma Press regarding the sale of the Journal stocked with them.

Resolved that in consideration of their undertaking to give greater publicity to the Journal, they be offered a commission of 50% on the sales as a temporary measure for two years.

8. Approved the action of the General Editor of the Text Publication Sub-Committee in coming to an agreement with the Manager, Pyi Gyi Mundyne Pitaka Press, to the effect that the Society shall be entitled to a royalty of 8 annas on every copy the 1st edition of Maung Kala's Mahayazawingyi sold at Rs. 4 per copy.

AHMED CASSIM,
Honorary Secretary,
Burma Research Society.

THE ANNUAL GENERAL MEETING.

The Annual General meeting of the Society was held at University College on Monday, the 8th March, 1926, at 6-30 p.m., with the President Mr. J. S. Furnivall, I. C. S. (retd.) in the Chair. There was a fair attendance of members, among those present being

Mr. Justice U Ba, Messrs. Dunn, Elgood, Sloss, Page, Collis, Pe Maung Tin, Luce, Fraser, Meer Suleiman, Bhimani, Purser, U Tun Hla, U Ba Thein and U E Maung.

The President made an interesting statement on the New Burmese Dictionary in the course of which he indicated the method by which it was possible to make the project a success. He also appealed to the members to assist in the undertaking. Messrs. Page, Purser and Cassim took part in the discussion which followed.

The Honorary Secretary moved a vote of thanks to Mr. Furnivall which was responded to heartily. The meeting then considered the following resolution of the Executive Committee to amend Rule 13 of the Society to read as follows :—

“For any meeting of the Executive Committee five members shall constitute a quorum. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting shall stand adjourned to the same day in the next week at the same time and place and if at such an adjourned meeting a quorum is not present those members who are present be a quorum and may transact the business for which the meeting was called.”

The resolution was passed unanimously.

The Honorary Secretary next presented the Annual Report for 1925 which was as follows :—

ANNUAL REPORT 1925

Roll of Members.—

The total number of members at the end of 1924 was 353 made up as follows :—

Honorary Members	....	2
Corresponding Members	....	4
Life Members	....	54
Ordinary Members	....	293

353

During the year under report two ordinary members died and 8 members resigned. Ten new members were elected of whom one became

a Life Member. One ordinary member became a Life Member. Seven libraries were on the list of subscribers:—

The roll therefore at the end of 1925 was as follows.

Honorary Members	....	2
Corresponding Members	....	4
Life Members	....	56
Ordinary Members	....	291

353

Obituary.—

The Committee regrets to report the death of two of its oldest and most valued members, Bishop Cardot and Mr. J. T. Best. Both of them were original members of the Society and served on the Committee till 1916. Mr. Best was also a Vice-President from 1916 to 1920. On his departure from Burma he was made an Honorary member. Both took the greatest interest in the Society which has sustained a severe loss by their deaths.

Officers.—

With the exception of Sir James Mackenna, Kt., C.I.E., who proceeded Home on leave the other officers elected at the last Annual meeting held office throughout the year. In December last Mr. J. S. Furnivall, I.C.S., (retd.) was elected President *pro tem.*, in place of Sir J. Mackenna.

Meetings.—

The Society's meetings during the year were as follows:—

- (1) Annual General Meeting held on February 11th, 1925, at which Mr. J. S. Furnivall, I. C. S. (retd.) read his paper "Word-making and Word-taking".
- (2) An ordinary meeting held on the 17th September, 1925, with U Set, B A., Offg. Commissioner, Rangoon Municipal Corporation, in the Chair when Mr. M. S. Collis, I.C.S. read his paper entitled "Dom Martin 1606—1641. The first Burman to visit Europe".

Both the meetings were well attended.

The Executive Committee met three times during the year.

Text Publication Sub-Committee.—

The Text Publication Sub-Committee during the year was composed of the following:—

The President (<i>ex-officio</i>)	U Po Byu
Prof. Pe Maung Tin, I.E.S.	Prof. G. H. Luce, I.E.S.
U Tun Pe, M.A.	Mr. A. Cassim, B.A. (<i>Honorary Secretary</i>)

The Advisory Board attached to the Sub-Committee remained the same as last year, the members being—

U Tin, K.S.M., A.T.M.	Saya Phi
U Po Sein, A.T.M.	U Thein
U Saw Kywe	Saya Pwa
Saya Lin, A. M. P.	Saya Yeik
U Ba, B.A., A.T.M., F.C.S.	

Prof. Pe Maung Tin, I.E.S., held the office of General Editor of the Series throughout the year.

Publications :—

Since the last report the Kandawmingyaung Myittāzā has been issued as No. 4 of the Text Publication Series. The work of the Sub-Committee is beginning to be appreciated by the presses interested in the publication of Burmese books. The Hanthawaddy Press has recently asked to be permitted to put the Sub-Committee's cover on the following works which it is publishing, viz.,

1. Nawarat Pyo.
2. Kyama Daik Min Vathu.
3. Udeinna Pyo.
4. Yezagyo Khon Maung Hmaing Kaukchet.

So far the first two have been approved by the General Editor for inclusion in the series and the permission asked for has consequently been granted; the other two are still under consideration. It has been learnt that other presses are similarly desirous of seeking the assistance of the Sub-Committee. Their co-operation, for which the Society and all lovers of Burmese literature will be thankful, should result in the publication and preservation, of a larger number of the best types of Burmese literature than has been possible in past years. Still more gratifying is the fact that abroad also, in Europe and America, the demand for works edited under the auspices of the Sub-Committee is fast increasing. Messrs. Prosbthain & Co., London, the foreign Agents for the sale of Society's Journal, have recently been appointed selling agents for the texts issued by the Text Publication Sub-Committee.

Maung Kala's Mahāyazawingyi which has been edited for publication in the series is practically ready and will be available shortly.

Further with the object of bringing out a critical edition of U Ponnya's Myittāzā the Sub-Committee has been in communication with owners of manuscripts of the work for a loan of their copies.

The New Burmese Dictionary.

As reported last year the executive Committee appointed a Sub-Committee consisting of Messrs. C. W. Dunn, I.C.S., J. A. Stewart, I.C.S.,

H. F. Searle, I.C.S., and C. Duroiselle, M. A. to undertake the control of the compilation of the Dictionary and agreed to finance the scheme for the first year at the same time applying to the Government to subsidize the project. Very valuable information regarding similar schemes assisted by Governments in and outside India was obtained and forwarded to the Local Government who called upon Mr. J. S. Furnivall to appear before the Finance Committee of the Legislative Council in support of the Society's request. Your Committee has pleasure in announcing that the Local Government has sanctioned an annual contribution of Rs. 2,500 for a period of your years towards the scheme conditional on the receipt of an annual report indicating satisfactory progress. Provision for the payment of this grant for this year is being made in the Provincial Budget Estimates for 1926-1927.

The University of Rangoon has been approached for co-operation and has appointed a small committee consisting of Prof. G. H. Luce, Prof. Pe Maung Tin and Mr. J. S. Furnivall to report on the best way in which the University may be able to assist in the work.

Meanwhile the Dictionary Sub-Committee report that 38 persons had agreed to read for the Dictionary and that 22 books had been allotted to them for the purpose. It is obvious however that the number of readers—fair enough for a start—is by no means adequate to the vastness of the scheme and your Committee therefore appeals very strongly to each individual member to come forward and help.

The Journal.—

Two Journals have been issued during the year—Vol. XV, parts I and II. The “Chinese Numbers” (Vol. XIV, parts II and III) have not yet appeared but half of the first number has actually been printed and the whole of the first, and half of the second of these numbers have for long been in a state of final proof. The delay is due to the difficulty of the Chinese characters, many of which being rare, are not available in Rangoon and have therefore to be specially engraved. As the type required is barely within the range of the presses in Rangoon, the editor proposes to have the latter half of the second number printed in Europe if the cost is not too high.

Vol. XV, Part III, will be the Society's first “Science Number”, and thanks are due to the contributors who have initiated this branch of the Society's activities, and in particular to Dr. F. J. Meggitt, I. E. S., who has kindly undertaken to see this number through the press. It is expected to appear in a few days. Another number, Vol. XVI, Part I, has already gone to press.

The Library.—

The number of books excluding periodicals has risen from 1289 to 1346. Only Rs. 92-15 have been spent on the purchase of books

and periodicals. Books have been kindly presented by the Government of Siam, by the Manchuria Research Society, by Phra Khan Chandakant of Siam, and by Prof. D. G. E. Hall, Dr. h. c. Renward Brandstetter, Mr. L. F. Taylor, Mr. W. Archibald and Mr. G. E. Harvey. To all of these the Society is greatly indebted.

Finances.—

The balance carried forward from last year was Rs. 15,701-3-6 and closes this year with 17,160-2-6. The Owadahtu Pyo brought in during the year a sum of Rs. 42-9-0 which with the sale proceeds of previous years exactly totals its cost of printing. The proceeds are credited to the Text Publication Fund which now stands at Rs. 500. The sales of the Journal and the "Glass Palace Chronicle" have not been so good as in the previous year. At the end of the year balance at the bank stood at Rs. 7,145-2-6. This amount included Rs. 2000, withdrawn from the Upper Burma Provincial Co-operative Bank for the purpose of financing the Dictionary scheme. Now thanks to Government's contribution the Committee have decided to re-invest the floating balance as follows.—Rs. 4,000 for 3 years with the Upper Burma Provincial Co-Operative Bank, Rs 2,000 for 6 months at Dawson's Bank, and Rs. 1,000 repayable at short notice in savings Bank account at the same bank.

The Report was adopted unanimously.

The election of Officers and Committee members for 1926 was then proceeded with and resulted as follows.—

PRESIDENT.

The Hon'ble Mr. Justice U Ba, B.A.

VICE-PRESIDENTS.

U Shwe Zan Aung, A.T.M., K.S.M.
The Hon'ble U May Oung, M.A., LL.M.
C.W. Dunn, Esq., C.I.E., I.C.S.

HONORARY SECRETARY AND TREASURER.

A. Cassim Esq., B.A.

HONORARY EDITORS AND LIBRARIANS.

Prof. Pe Maung Tin, M.A., B. Litt., I.E.S.
Prof. F. J. Meggitt, M.Sc., Ph.D., I.E.S.

EXECUTIVE COMMITTEE.

U Po Byu	Prof. D. G. E. Hall, I.E.S.
U Tin, K.S.M., A.T.M.	S G. Grantham, Esq., I.C.S.
L. F. Taylor, Esq., I.E.S.	W. G. Fraser, Esq., I.E.S.
Dr. G. R. T. Ross, I.E.S.	J. S. Furnivall, Esq.
U Po Sein, A. T. M.	M. S. Collis, Esq., I.C.S.
U Tun Pe, M.A.	D. B. Petch, Esq., I.C.S.
D. J. Sloss, Esq., C.B.E.	U Set, B.A.

Prof. W. N. Elgood, I.E.S.

GENERAL COMMITTEE.

J. L. McCallum, Esq., I.C.S.	R. C. J. Swinhoe, Esq
U Thein	San Shwe Bu, Esq.
Major C. M. Enriquez	Ch. Duroiselle Esq., M.A.
U Kyaw Dun, K.S.M.	U Tha Tun Aung, B.A.
Taw Sein Ko, Esq., C.I.E.	J. A. Stewart, Esq., I.C.S.
H. F. Searle, Esq., I.C.S.	Capt. G. H. M. Medd
Dr. O. Hanson	U Tha Kin

G. E. Harvey, Esq., I.C.S.

The meeting ended with a vote of thanks to the Chair.

AHMED CASSIM,
Hon. Secretary.

THE NEW BURMESE DICTIONARY.

Gentlemen, I feel a little diffident about my task this evening. I take it that you are all acquainted with the nature of my task and perhaps you will guess the reason of my diffidence. I have, as President, to make a statement on the subject of the New Burmese Dictionary which the Society, not without prolonged deliberation, has recently undertaken. Now it is usual on such occasions as the present for the lecturer to be introduced by some one whose function it is to make a few well chosen remarks that serve as an *hors d'oeuvre* or rather perhaps as gin and bitters to stimulate the appetite and promote the flow of intellectual digestive juice for the heavy meal to follow. Well . . . it seems rather absurd for any one to introduce the President, or even, as in the present case, the officiating President, and modesty forbids my introducing myself with the encouraging remarks that I should have expected in the ordinary course of such a meeting as the present. However, I will preface my statement with some remarks from Mr. Stewart who ought by rights to be delivering this lecture, and whose absence all of us regret; no one more than myself. "If I can possibly manage it," he writes, "I will let you have a note on the work being done for the dictionary with a few cheerable extracts from contributors' letters and perhaps a few sample slips" You will note I trust his promise of "cheerable extracts" and take advantage of any opportunity that may arise to signify your approval with all the decorum proper to a learned society.

Some Old Burmese Dictionaries.

Before we pass on to the New Burmese Dictionary it may be worth while to recall what has already been accomplished in this direction. The first attempt in this direction was made by a Burman Thilawuntha at the end of the 15th century. But he confined his attention to old Burmese and compiled a list of *Poranas*, or obsolete words, some of which, strangely enough, such as *lulin*, are still current at the present day. The first dictionary of current Burmese was the work of an Italian missionary, I think in 1742. You will find this mentioned in the Official account of the Roman Catholic Mission in Burma. Unfortunately I have just packed my copy of the work and have been unable to verify the reference. The next dictionary was the work of an English scholar, John Leyden, who published in 1810 a Comparative Vocabulary of the Burma, Malayu and Thai languages. This work, as you may imagine, is extremely rare, and I am sure you will all be gratified to learn that the Society is now fortunate enough to possess a copy of it, which was made over to me some time ago by Mr. Law of the Excise Department to be presented to our Library and which I have brought with me this evening to give to the Librarian. The annexation of Tenasserim and Arakan was followed immediately by the publication of an English-Burmese

Dictionary compiled by Hough in 1825 and Judson laid the foundations of his great work in 1826. But it was not until 1852 that there was any comprehensive attempt at a Burmese-English dictionary. It was in that year that Judson published the first edition of what is still the standard work. This was revised by Stevenson in 1893 and again by Eveleth in 1914. These have been the land marks in the course leading to our present undertaking.

The Project of a New Dictionary.

As I have remarked already, our present undertaking is no hastily adopted scheme. It has been under consideration for many years; almost in fact, from the foundation of our Society. The suggestion originated with Mr. C. W. Dunn, who took advantage of the presence of many people interested in Burma and the Burmese language at a Co-operative Conference at Mandalay in 1913 to ventilate a proposal for a new edition of Stevenson's Burmese Dictionary. The suggestion received a large measure of support and the upshot was that Mr. Carey and other members of the Society were suggesting that the Society should undertake the work. The proposal went in due course before the Sub-Committee who resolved that U May Oung and Professor Maung Tin should report on the likelihood of obtaining sufficient help from Burmese scholars to make the task feasible. But as the then President remarked at the next Annual Meeting the Society was passing through a period of stagnation. The Committee was comfortably asleep and seems to have resented an attempt on the part of up country members to wake it up. It woke up sufficiently however to take notice of what the Sub-Committee had been doing and resolved that before taking action the matter should be further considered by a special meeting of the Committee. There is no record that this special meeting was ever held. But in the annual report we find the following remarks—"In view of the fact that it is understood that the A. B. M. Press is bringing out a revision of Stevenson's Dictionary and in view also of the fact that such an undertaking would be a matter of great expense and difficulty the Sub-committee is of opinion that the proposal is for the present, at least, premature" This view did not pass unchallenged at the annual meeting. "A short discussion took place over the project of publishing a revised edition of Judson's Dictionary. It was felt, however, that the matter should be left in the hands of the Sub-committee". That was in February, 1914. Shortly after that people had other things than dictionaries to think of, and the proposal remained in the hands of the Sub-committee "for the duration of the war."

Revised Proposals.

It is worth while recalling these facts for since then a new generation has arisen and in Burma memories are very short. But the dictionary had not been quite forgotten. Mr. Dunn had not forgotten it and he was largely responsible for another appeal to the Society to

revive the scheme. Again a letter asking for support to the project was addressed to the Committee by a large number of members and this time, possibly because Mr. Dunn was on the Executive Committee, the response was more favourable. It was resolved to appoint a Dictionary Sub-Committee to start the work and Messrs. Duroiselle, Searle and Stewart were asked to make the necessary arrangements. It was also decided to make a grant of Rs. 2,500 towards the expenditure for the first year of work. An appeal has been made to the general public for assistance; instructions have been drawn up for the guidance of those willing to assist and the collection of material has commenced. Since then the Society has approached Government and has been promised a grant of Rs. 2,500 a year for four years conditional on satisfactory progress being made. We have also appealed to the University for support and have received a very encouraging response. We can claim, I think, that we have made a satisfactory beginning. But it must be remembered that by appealing to Government and to the University for help we have undertaken the responsibility for turning to the best account the help that they will give us. It is for that reason that the Committee has requested me to make the present statement so that we can bring home to members of the society the nature of their responsibility and obtain so far as possible their active co-operation and support. We have felt also that the statement should be made at one of our public meetings so that we can let the general public know what we are attempting and invite their help.

The Dictionary and Burma, Old and New

It is hardly necessary on such an occasion as the present and there is not sufficient time for me to enlarge on the need for a new Burmese Dictionary. Every one who knows anything about the language has long been accustomed to deplore its gradual decay and no one can listen to the hybrid jargon which is replacing it without some concern for the mentality of a people brought up to talk it as their mother—rather perhaps their father-tongue. *A good dictionary will explore the full resources of the Burmese language and thus not only help to preserve it from decay but enable it to develop and respond to, and thus help the speakers of the Burmese language, to respond to the political and economic conditions of the modern world.* It will help the people of Burma to model new Burma in accordance with the genius of the past. But that every member of our Society will be quick to understand and there is no need to deal with this aspect of the question we are now considering. Let us turn then to examine the nature of the task.

The Nature of the Task.

Burmese.

The material for a dictionary may be classed under five heads according to the method that may be employed for collecting it.

First of all there is modern literary prose such as any English man can read who has enough Burmese to look words out in a Burmese-English dictionary;

Then there are modern colloquial words that have achieved currency in print in novels, newspapers and *pyazals*. Not many Englishmen could do much work on these but to collect words from them would be child's play, recreation to a Burman.

Then there are old words in inscriptions and historical manuscripts, which can only be dealt with by scholars.

The next class consists of technical terms which require the collaboration of experts in the subjects with experts in Burmese.

The fifth class consists of dialect forms, which requires training of a special kind to deal with.

There are two stages in the production of a dictionary; collection and compilation. In the first stage words are collected by the largest number of contributors that it is possible to get. In the second stage the material thus collected is made over to an editor or editorial board for compilation and arrangement in the form that the dictionary will finally assume. So far we are only attempting collection.

What is Being Done.

The Sub-committee appointed by the Society to make arrangements for the dictionary issued an appeal for help and has received promise of active support from 38 people. That was the figure as it stood in last December; I know that it has risen since then, but I do not know how many have since offered to help. To each person who is willing to assist the committee allots a book or part of a book to read; though people are allowed if they prefer to choose their own book. The reader then goes through the book allotted word by word and looks each word up in a standard dictionary. If the word is not given, or is not assigned the meaning that the reader finds it to possess he notes the word on an index card with so much of the context as is wanted to explain its use. The whole process is very simple. Any one who knows enough Burmese to pass the Lower Standard can give useful help. There would be few better ways of acquiring a good Burmese vocabulary and facility in Burmese spelling. It would be excellent training for any one studying for the Higher Standard or, for that matter, for the Lower Standard.

Similarly the Burman who knows enough English to pass the High School Final could give useful help and would find that regular practice in word by word translation such as the dictionary needs would greatly improve his knowledge of English.

I do not wish however to recommend the work merely as a University Extension course, a method of education in the home. Those who have by birth or long residence a wider acquaintance with the Burmese

language will find, I think, *experto crede*, that there is some satisfaction in plodding through a book word by word, ticking off the words done. They may also be surprised to find how many words they do not know.

What the University will do.

The third class of words, old words in inscriptions and historical manuscripts, as I have said above, can only be dealt with by scholars. In this matter the University proposes to assist. I understand that it is proposed to constitute three classes to deal respectively with Inscriptions, Historical MSS. and the more difficult Burmese literature. These classes will be under the guidance of members of the College Staff who are interested in the dictionary and attendance at the classes will be expected as a matter of routine in the ordinary course of study.

But in addition to this it is also proposed to form some kind of an association for private work along the lines undertaken by the Society. This will not get to work until next session but some dozen of the keener students, who can understand what a dictionary means for Burma, and are anxious to play their part in it, have asked for work to do during the coming vacation.

A Burmese or English Dictionary.

Some doubt has been expressed whether the country does not require a dictionary to help Burmans translate English into Burmese rather than a Burmese dictionary. That I think every lover of the country and every one with any sense of the nationality will instinctively repudiate. What ever is the use finally of translating English into Burmese if there is no Burmese language to translate it into? Let us first of all preserve and revive the Burmese language, give it a new impulse by which it can assimilate modern ideas, so that translation will no longer be necessary. Then comes the question whether the dictionary is to be Burmese-English, or purely Burmese, or both. That matter need not be decided yet. The collection of material is the same whatever may be the manner in which it will finally be presented. For collection the use of both languages will certainly be necessary and my impression is that both languages will be needed in the final form of the dictionary. You want for example to have the word *eim*: in the dictionary and you want the derivation of the word if possible. But for its ordinary meaning the shortest way of giving it is to give it in English. Burmese definitions and explanations can, I think, suitably be reserved for the more difficult and unusual words. That matter however need not be decided just at present. Our immediate function is to collect material.

The Responsibility of the Society.

For the collection of the material we have made ourselves responsible. All the offers of assistance that we have received have increased the burden of our responsibility. It is up to us to show that we deserve

and can earn the help of Government and the University. We hope then that members will all of them individually realise their share of the responsibility and help us to discharge it by taking part in the work themselves and encouraging as many others as possible, whether members of the Society or not, to help us in the collection of material. As I have said above, it is an easy matter. It only needs good will. Most people can contribute half an hour a day, every one can spare an hour a week. And every one who knows any Burmese at all can help. Any one who wishes to help need only write to the Secretary of the Burma Research Society at the Bernard Free Library, Rangoon or direct to the Sub-Editor of the Dictionary Committee Mr. J. A. Stewart, Deputy Commissioner, Thaton.

List of Recent Additions to the Library.

By Presentation

- Jātaka Aṭṭhakathā, 10 volumes (Siamese Texts).
Milinda Paññha (Siamese Text).
Fifth Annual Report of the Trustees for the Development of the City of Rangoon on the working of the Rangoon Development Trust for the year 1924-25.
Ruins of Muhammadpur.
History of Burma, by G. E. Harvey.
A Practical Handbook of the Chin Language (Siyin Dialect), by L. B. Naylor.

By Purchase.

- Arts et Archéologie Khmers, Tome II—1925.
Dictionnaire Annamite Française, 2 vols.
History of Burma, by G. E. Harvey (2 copies).
T'oung Pao, Vol. XXIV, No. 1

By Exchange.

- Journal of the Malayan Branch of the Royal Asiatic Society. Vol. III, Parts I, II, III—1925.
Indian Antiquary, August 1925, and January to March 1926.
Indian Antiquary—Index to Vol. IL (1872—1921) Parts II & III
Journal and Proceedings of the Asiatic Society of Bengal, New series Vol. XX, Nos. 5 and 6—1924; Vol. XXI, No. 1—1925.
Journal Asiatique, Tome CCVI, No. 1; Tome CCVII, No. 1.
Journal of the Royal Anthropological Institute of Great Britain and Ireland, Vol. LV. 1925 (January to June) and (July to December)
Bulletin de l'Ecole Française d'extrême orient, Tome XXIV—1924 No. 3 and 4; Tome XXV—1925, Nos. 1. 2.
Dājwā, Nos. 5 and 6 October and November 1925; January 1926.
Report of the Superintendent, Archaeological Survey of Burma for the year ending 31st March 1925.
Journal of the Siam Society, Vol. XIX, Parts 2 and 3.
Journal of the Siam Society, Natural History Supplement Vol. VI. n No. 4; and Index to Vol. VI.
Bulletin des Amis du Vieux Hué, No. 2 and 3, Avril-Juin, and Juillet-Septembre 1925.
Journal of East India Association, October 1925; January 1926.
Memoirs of the Archaeological Survey of India, Nos. 15, 20, 21, 27.
Journal of Royal Asiatic Society of Great Britain and Ireland, 1925, 4th Quarter; and 1926, 1st Quarter.
Mitteilungen der Anthropologischen Gesellschaft in Wien LV Band. VI Heft; LVI. Band I. u II Heft.
Man in India, Vol. V, Nos. 3 and 4, Vol. VI, No. 1.

- Archaeological Survey of India Annual Report 1922-23.
Journal and Proceedings of the Asiatic Society of Bengal, New Series, Vol. XX, 1924 No. 6, Vol. XXI, 1925, No. 1.
Annals of the Bhandarkar Institute, 1925-26, Vol. VII, Parts I and II.
Zeitschrift der Deutschen Morgenländischen Gesellschaft, Bands 70-79.
Bulletin of the School of Oriental Studies, London Institution. Vol IV, Part I.
Archaeological Survey of India—Annual Report 1923-24.
Bulletin of Applied Botany and Plant-Breeding—Vol. XV, No. 1.
Memoirs of the Archaeological Survey of India No. 19.
The Jami Masjid at Badaun and other buildings in the United Provinces, by F. J. Balckiston.
-

LIST OF MEMBERS (Dec. 31st, 1925).*

*Life member.

†Corresponding member.

‡Honorary member

- *Adamson, Sir Harvey, c/o India Office, London.
 Aiyar, N. C. Krishna, M.A., University College, Rangoon.
 Aung, U Shwe Zan, B.A., A.T.M., K.S.M., No. 5, Innes Road, Kem-mendine.
 Aung, U Tha Tun, B.A., Additional District and Sessions Judge, Pyapon.
 Aung, U Kyaw Za, S. D. O., Kyauktaw (Akyab District).
 Aung, U Lun, Myook, Paungdè, (Tharrawaddy).
 *Ba, U, A.T.M., Income-tax Assessor, Mandalay.
 Ba, U, The Hon'ble Mr. Justice, High Court, Rangoon.
 Bah, U, Rice Miller, Payagale-upon-Kyaiklat Stream, Kyaiklat.
 *Ban, U Shwe, *Bar-at-Law*, 15, York Road, Rangoon.
 Barretto, Miss E., Principal, Victoria Buddhist Girls' School, 57, Canal Street, Rangoon.
 Barretto, Wm. L., Deputy Commissioner, Kyaukpyu.
 Barton, C. S., Bombay Burma Trading Corporation, Ltd., Pakokku.
 Baw, U Hla, I.S.O., K.S.M., District and Sessions Judge, (retired) Bassein.
 Baw, U Htoon, Banker, Akyab.
 Bazett, H. M., S. D. O., Kawkareik, Amherst.
 Bhimani, A. R., Proprietor, Gujerat Press, No. 6, Maung Tawlay Street, Rangoon.
 Bhymeah, H. M. E., 151, Monkey Point Road, Rangoon.
 Bilimoria, J. C., B.A., *Bar-at-Law*, University College, Rangoon.
 Bishop, F., 16, Leamouth Grove, Edinburgh.
 †Blagden, Dr. C. Otto., School of Oriental Studies, Finsbury Circus, London, E. C. 2.
 Brookes, A., I.E.S., Principal, Intermediate College, Mandalay.
 Brookes, Major W. L., I.M.S., Civil Surgeon, Lashio, N. S. S.
 Brough, Joseph, Secretary, Y. M. C. A., Central Branch, Rangoon.
 *Brown, G. E. R. Grant, c/o Messrs. Thomas Cook & Son, Ltd., London.
 Brown, The Hon'ble Mr. Justice H. A., I.C.S., *Bar-at-Law*, Judge, High Court, Rangoon.
 Brown, R. R., I.C.S., Deputy Commissioner, Mandalay.
 Browne, C. E., I.S.O., Loi-an, Kalaw, S. S. S.
 Bu, U Mya, *Bar-at-Law*, Asst. Govt. Advocate, Rangoon.
 Bu, U San Shwe, Teacher, Govt. High School, Akyab.
 Bush, S. P., Govt. Architect, Secretariat, P. W. D., Rangoon.
 Butler, Sir Spencer Harcourt, G.C.I.E., K.C.S.I., Patron.

*Members are particularly requested to inform the Hony. Secy. of any change in their address.

- Buttress, E. W., B.A., B.E.S., Offg. Inspector of Schools, Akyab.
 Bwa, U Ba, Excise Inspector, Bassein.
 Byu, U Po, 14, Pagoda Road, Rangoon.
 Campbell, A., M.A.M.C., University College, Rangoon.
 *Carr, The Hon'ble Mr. Justice W., I.C.S., Judge, High Court of Judicature, Rangoon.
 *Carroll, E. W., Imperial Forest Service, c/o Messrs. Thomas Cook & Son, Ltd., Rangoon.
 Cassim, A., B.A., Pali Lecturer, University College, Rangoon.
 Cassim, M., Head Master, Govt. Normal School, Akyab.
 Chambers, W. P. C., Messrs. Steel Bros., Toungoo.
 *Chit, U Po, A.T.M., S. D. O., Yamethin.
 Clague, J., B.A., I.C.S., (on furlough)
 Clark, Dr. G. F., M.A.Ph.D. Professor, University College, Rangoon.
 Clayton, H., M.A., I.C.S., C.I.E.
 Cleburne, J. St. H., District Superintendent of Police, Magwe.
 *Cochrane, R. A., Divisional Forest Officer, Katha.
 Collis, M. S., B.A., I.C.S., Deputy Secy. to Govt. of Burma.
 Connor, J. P., Asst. Director of Land Records, Burma.
 Cooper, C. R. P., Secy. to Govt. of Burma.
 Cooper, R. E., Superintendent, Agricultural Society of Burma, Rangoon.
 *Couper, T., M.A., I.C.S., Deputy Commissioner, Shwebo.
 †Craddock, The Hon'ble Sir Reginald Henry, K.C.S.I., I.C.S.
 *Cuffe, Lady, "Leyrath" Kilkenny, Ireland.
 Cummings, Rev. Dr. J. E., M.A., D.D., Henzada.
 Danson, J. W. W., Minera Hall, near Wrexham, North Wales.
 Darne, Rev. Father A., Military Chaplain, Roman Catholic Cathedral, Mandalay.
 Darwood, J. W., 77, Merchant Street, Rangoon.
 Davis, C. K., Land Officer & Secretary, Rangoon Development Trust, Rangoon.
 Dawson, L., *Bar-at-Law*, Pyapon.
 de Silva, Thos, P., c/o Messrs. Harperink, Smith & Co., Rangoon.
 Din, U Min, K.S.M., T.D.M., D. S. P., Toungoo.
 Doe, U Ah, *Bar-at-Law*, Akyab.
 Drysdale, Rev., J. A., M.A., "The Manse," Signal Pagoda Road, Rangoon.
 Dun, U Kyaw, K.S.M., Nyaung Waing Road, Thaton.
 Dunn, C. W., B.A., C.I.E., 27, Windermere Park, Rangoon.
 Duroiselle, Ch., M.A., Superintendent, Archaeological Survey, Mandalay.
 E, U Ba, B.A., A.T.M., K.S.M., Headquarter's Assistant, Pegu.
 *E, Khoo Soo, Merchant, 3A, 23rd Street, Rangoon.
 E, U Tun, Taikthugyi of Tamwe Circle, 50, 51st Street, Rangoon.
 Elgood, Major, W. N., M.C., B.Sc., I.E.S., Prof., University College, Rangoon.
 Enriquez, Major C. M., c/o Messrs. Thos. Cook & Son, Ltd., Rangoon.
 Ewing, Capt. R. R., I.A., c/o Messrs. Thomas Cook & Son, Ltd., Rangoon.

- Fraser, W. G., M.A., University College, Rangoon.
 *Furnivall, J. S., M.A. I.C.S., 40, Park Road, Rangoon.
 Fyffe, The Right Rev. R. S., Bishop of Rangoon.
 Gale, U Maung, Deputy Commissioner, Minbu.
 Gale, U Maung, (6) Additional District and Sessions Judge, Bassein.
 Gale, U Maung, Subdivisional Police Officer, No. 235, Taungkôn, Sangyaung, Kemmendine, Rangoon.
 Gates, G. E., 144, High Street, Keene, N. H., U. S. A.
 Gaudoin, E. T. D., B.A., Assistant Superintendent, Shwegu (Bhamo).
 Gilmore, Rev. D. C., Judson College, Rangoon.
 Ginwala, P. P., *Bar-at-Law*, 70, Phayre Street, Rangoon.
 Glay, U Lu, Circle Inspector of Police, Eastern Circle, Bassein.
 Goldsworthy, L. G., I.E.S., Lecturer, University College, Rangoon.
 Gon, U Ba, Superintendent, Copying Department, High Court, Rangoon.
 *Grantham, S. G., B.A., I.C.S., Secretariat.
 Green, Capt. J. H., I.A., Kachin Unit, Maymyo.
 Green, Lieut.-Col. G. E. T., 3, Kalaw, Southern Shan States.
 Gyi, The Hon'ble Mr. Justice J. A. Maung, *Bar-at-Law*, Judge, High Court, Rangoon.
 Gyi, Maung Maung, Superintendent of Land Records, Pegu.
 Gyi, Maung Maung, M.R.A.S., Inspector of Excise, Mandalay.
 Hall, Prof. D. G. E., M.A., F.R. Hist. S., I.E.S., University College, Rangoon.
 †Halliday, Rev. R., "Mount Pleasant", Moulmein.
 Han, U Kyin, T.D.M., Deputy Superintendent of Police (retired), 21, Creek Street, Rangoon.
 Hanson, Rev. O., D.D., A. B. Kachin Mission, Bhamo.
 Harvey, G. E., M.A., I.C.S., S. D. O., Maymyo.
 Hashim, M., Calico Expert, 90-91, Merchant Street, Rangoon.
 Heath, C. J., District Superintendent of Police, Magwe.
 Hendry, D., M.C., B.Sc., Dy. Dir. of Agriculture, Burma.
 Hertz, W. A., Lecturer in Burmese, Cambridge University, 25, Milton Road, Cambridge.
 Hindley, Gordon, c/o Messrs. Steel Bros. & Co., Ltd., Toungoo.
 Hla, U, B.A., Extra Assistant Commissioner, Minbu.
 Hla, U Aung, B.A., (1), District and Sessions Judge, Myaungmya.
 Hla, U Ba, Officer-in-charge, Special Surveys, Burma, Shwebo.
 Hla, U Kyaw Zan, 1st. Additional District Judge, Mandalay.
 Hla, U Tun, Pali Teacher, Govt. High School, Rangoon.
 *Hlaing, U Po, Township Officer, Tilin (Pakokku).
 Hlaing, U Tun, Asst. Registrar, Co-operative Societies, Rangoon.
 Houldey, J. E., B.A., I.C.S., Chairman, Development Trust, Rangoon.
 Howard, R. L., Principal, Judson College, Rangoon.
 Htin, Saw Chin, B. A. Offg. Inspector of Schools, Rangoon.
 Htoon, U Tha, Banker, Rupa Quarter Akyab.
 Hunter, Sir John Mark, M.A., D.Litt., I.E.S., Woodleigh, Ascot, England.

- †Hunter, M., M.A., D.S.C., C.I.E., c/o Messrs. Thomas Cook & Son, Ltd., London, E. C.
- Hutton, J., Inspector of Police, 37, East Road, Insein.
- I, U, Addl. District and Sessions Judge, Pegu.
- Iyer, S. P. S., Corporate Accountant & Public Auditor, 29B, Lewis Street Rangoon.
- Jevons, Prof. H. S., M.A., F.S.S., University College, Rangoon.
- Jones, Rev. B. M., 25, Creek Street, Rangoon.
- Jones, T. Martin, 6, Prome Road, Rangoon.
- Josif, Rev. Geo. D., M.A., 5800, Maryland Avenue, Chicago, Illinois.
- Jury, Rev. G. S. Judson College, Rangoon.
- Kan, U, Additional Magistrate, Tavoy.
- *Karpeles, Mademoiselle Suzanne, Member de 1 Ecole Francaise, Extreme Orient, Hanoi, Tonkin, Indo-China.
- Kay, R. G., Engineer, Messrs. Ellerman's Arracan Rice & Trading Co., Ltd., Dawbong Mill, Rangoon.
- Keith, A. D., B.A., *Bar-at-Law*, Mason's Building, 35th Street, Rangoon.
- Keith, The Hon'ble Sir Wm. J., M.A., I.C.S., Finance Member, Govt. of Burma.
- Khalak, A., St. John's College, Rangoon.
- Khin, Capt. H. Aung, Indian Station Hospital, Meiktila.
- Kin, U Tha, Advocate, Pyapon.
- Kin, U Thein, B.A., A.T.M., F.C.S., Assistant Chemical Examiner to Government, Burma.
- *Ko, Taw Sein, C.I.E., "Peking Lodge," West Moat Road, Mandalay.
- Ku, U Maung, Additional Magistrate, Nyaunglebin.
- Kya U, Ba, B.A., Assistant Pali Lecturer, University College, Rangoon.
- Kyaw, U, B.A., Assistant Registrar, Co-operative Societies, Moulmein.
- Kyaw, U Ba, (2) *Bar-at-Law*, K.S.M., 8, Link Road, Insein.
- Kye, U Po, Treasury Officer, Moulmein.
- Kyin, K. Maung, Manager, Ma Nu & Sons, Merchants and Landlords, Bazaar, Prome.
- Kywe, U (I), Circle Inspector of Police, Zigon.
- *Lack, Major L. H. A., I.M.S., Lecturer, University College, Rangoon.
- Lander, A. J. M., I.C.S., c/o Messrs. A. Scott & Co., Rangoon.
- Lat, U, Asst. Registrar, Co-operative Societies, Henzada.
- Latt, U Ba Pe, Superintendent, S. I. Thippan Institution, Pazundaung.
- Lees, M. L., I.C.S., Under-Secretary to Govt. of Burma.
- Lightfoot, S. St. C, Taunggyi.
- *Lin, U We, B.A., K.S.M., I.E.S., Inspector of Schools, (on furlough).
- List, J. N., Executive Engineer, Akyab.
- *Llay, U Shwe, Kado Rubber Estate, Kado, Moulmein.
- Lloyd, I. G., B.A., I.C.S., Commissioner, Magwe.
- *Luce, G. H., B.A., I.E.S., University College, Rangoon.

- Lwai, W. A., Toll Collector, Myitkyo Lock, Pegu & Sittang Canal, Myitkyo (Pegu District).
- *McCallum, J. L., I.C.S., Commissioner, Federated Shan States.
- MacKenna, J., M.A., C.I.E., Development Commissioner, Burma.
- McPhredran, Arch., Works Assistant, c/o B. O. C., Ltd., Danneedaw, Rangoon.
- Mariano, V. J., *Rangoon Gazette*, Rangoon.
- Marshall, Rev. H. I., Seminary Hill, Insein.
- Marshall, J. B., M.A., B.Sc., C.I.E., I.C.S., (on furlough).
- Martin, U, Deputy Inspector of Karen Schools, Toungoo.
- Massink, W., Consul for the Netherlands, P. O. Box 119, Rangoon.
- Mathew, H. M., Messrs. Steel Bros., Rangoon.
- Maung, U Maung, Superintendent., Office of Supdg. Engr., Northern Irrigation Circle, Maymyo.
- Maung, U Maung, A.T.M., Offg. Inspector of Schools, Insein.
- Maung, U Chit, E. A. C., Headquarters Assistant, Hanthawaddy.
- Maung, U E, B.A., LL.B., *Bar-at-Law* Gyogon (Insein).
- Maung, Lieut. Kin, 5/70 Burma Rifles, Maymyo.
- Maung, U Lun, Head Clerk, Police Office, Taunggyi.
- Maung, U Sein, Township Judge, Tantabin.
- *Maung, U Thein, Retired Myook, Aukyin Quarter, Thaton.
- Maung, U Thein, M.A., LL.B., *Bar-at-Law*, 6, Barr Street, Rangoon.
- Maung, U Thein, (2) Treasury Officer, Pyapon.
- Maung, U Thein, Teacher, Govt. High School, Pyapon.
- *Maung, U Tso, T.P.S., F.R.C.I., Broker, Ellerman's Arracan Rice. Trading Co., Ltd., Bassein.
- Maung, U Tun, Junior Assistant Registrar, Co-operative Societies, Monywa.
- Maung, U Tun, (2) B.A., Akunwun, Toungoo.
- *Maye, Rev. Joseph, Catholic Missionary, Mergui.
- *Me, U, K.S.M., C.I.E., Deputy Commissioner, Prome.
- Medd, Capt. G. H. M., Agent, Irrawaddy Flotilla Co., Ltd., Bhamo.
- Meggitt, Prof. F. J., M.Sc. Ph.D., University College, Rangoon.
- Milner, C. E., Deputy Conservator of Forests, Moulmein.
- Min, U Kyaw, B.A., I.C.S., Subdivisional Officer, Wakema.
- *Mög, Saw Hkun, Myoza of Mong Kung State, Southern Shan States.
- Moore, H. C., B.A., I.C.S., 22, Churchill Road, Rangoon.
- Morris, A. R., I.C.S., Deputy Commissioner, Tavoy.
- Morris, A. P., B.Sc., A.M. I.N.S.T. C.E., Principal, Govt. Engineering School, Insein.
- Mukerjee, H. C., B.E., Sub-divisional Officer, P.W.D., Pa-an.
- Munro, G. F., I.E.S., Inspector of Schools, Rangoon.
- Myaing, U Ba, Asst. Govt. Translator, Secretariat, Rangoon.
- Myat, U Tun, T.D.M., 3rd. Addl. Magistrate, Bassein.
- Myint, U Aung, E. A. C, Thayetmyo.
- Naikwara, Md. Usooff, Merchant, 52, Maung Taulay Street, Rangoon.
- Nepean, N. St. V., Assistant Superintendent, Northern Shan States, Namtu.

- Nixon, A.B., P.A. to Chief Conservator of Forests, Rangoon.
 Nolan, J. J., c/o Chartered Bank, Rangoon.
 Nolan, Capt. M.C., Kachin Unit, att'd. 1/10th Gurkha Rifles, Mandalay.
 Nu, U San, Circle Inspector of Police, Bassein.
 Nyein, U, (1), A.T.M., Sub-divisional Magistrate, Mandalay.
 *Nyein, U Tun, I.S.O., "The Diggings", 1, Lower Kemmendine Road, Rangoon.
 Nyo, U Lu, A.T.M., Sub-Engineer, P. W. D., Tavoy.
 *Nyun, U San, Hony. Magistrate, Pegu.
 O, U Kyi, B.A., A.T.M., K.S.M., Superintendent of Land Records (retired), Thaton.
 Oates, S. J., Thindawyo Camp, Hmawbi.
 *Ogilvie, G. H., B.Sc., M.C., Divisional Forest Officer, Myitkyina.
 Osborn, Dr. H. B., 19, Sule Pagoda Road, Rangoon.
 Ottama, Rev. Bhikkhu U, Tattawin Kyaung, Kamayut.
 Oung, U Ba, Inspector of Police, on special duty, Fytche Road, Bassein.
 Oung, Mrs. Hla, 3A, Pagoda Road, Rangoon.
 Oung, Chan Htwan, Pleader, Akyab.
 Oung, The Hon'ble U May, M.A., LL.B., *Bar-at-Law*, 2-Pagoda Road, Rangoon.
 Owen, L. G., M.A., University College, Rangoon.
 *Page, A.J., B.A., I.C.S., Commissioner of Settlements and Land Records Burma.
 Paik, U, Deputy Superintendent of Police, Tharrawaddy.
 Pan, U, Resident Excise Officer, Letpadan.
 Pe, U, (2), Sub-divisional Officer, Magwe.
 Pe, U Ba, Myook, Shwedaung.
 Pe, U Hla, Pleader, Prome.
 Pe, U Hline, Sub-Asst. Surgeon, Konglu (outpost) Putao District.
 *Pe, U On, "Rosebank" Cantonments, Moulmein.
 Pe, U On, B.A., B.L., Pleader, Myaungmya.
 Pe, U Po, K.S.M., Deputy Commissioner (retired), Wakema.
 Pe, Saya, 18, Sule Pagoda Road, Rangoon.
 Pe, U Than, Junior Assistant Registrar Co-operative Societies, Henzada.
 Pe, U Thaug, (1), B.A., Akunwun, Tavoy.
 Pe, U Tun, M.A., M.R.A.S., Lecturer, Judson College, Rangoon.
 Peacock, D. H., I.E.S., Professor, University College, Rangoon.
 Pelly, Major H. R., I.A., Deputy Commissioner, Mergui.
 *Pennell, C. S., M.A., M.C., I.C.S., c/o Grindlay & Co., 54, Parliament St., London, S.W.I.
 Perroy, The Right Revd. Bishop F., Vicar Apostolic of Southern Burma.
 Petch, D. B., B.A., M.C., I.C.S., Under Secy, to Govt. of Burma.
 Po, U Ba, Township Officer, Pwinbyu.
 Porter, A. W., S. D. O., Sumpra Bum (Putao).
 Powell, Capt. J. H., Agent, Irrawaddy Flotilla Co., Ltd., Bhamo.
 Pru, U Saw Hla, B.A., B.L., S. D. O., Minbya.

- Pullar, E. J., 8, Montana Road, Wimbledon, S. W.
 Purser, Rev. W. C. B., Principal, St. Michael's S. P. G. School, Kemmendine.
 Pwa, Sya, Burmese Tutor, University College, Rangoon.
 *Reddiar, Rao Sañib S. Ramanatha, 63, 32nd Street, Rangoon.
 Rees, O. M., I.C.S., "The Nutgrove," Chew Magna, Somerset.
 Reynell, C. A., Deputy Inspector-General of Police, Eastern Range, Rangoon.
 Reynolds, H. O., I.C.S., Secy. to Govt. of Burma.
 Reynolds, J. T. C., Superintendent of Excise, Pegu.
 Robbin, U, Deputy Inspector of Schools, Bhamo.
 *Roberts, Major A. B., Deputy Commissioner (retired).
 Robertson, L. C., 21, Boundry Road, Rangoon.
 Robertson, J. P. W., P. A. to D. I. G. of Police for Railways & C.I.D., Burma.
 Rodger, A., O.B.E., Forest Park, Dehra Dun, U. P., India.
 Rollo, W. Smith, Agricultural Engineer to Govt., Mandalay.
 Ross, Dr. G. R. T., M.A., D. Phil., University College, Rangoon.
 Roy, M. K., Pleader, Pyapon.
 Russell, Rev. Maurice H., Wesleyan Methodist Mission, Mandalay.
 Rutledge, The Hon'ble Mr. Justice J. G., M.A., *Bar-at-Law*, Chief Judge, High Court of Judicature, Rangoon.
 Sa, U Po, I.S.O., K.S.M., Thaton.
 St. Gully, The Very Rev. Father, "Clergy House" Judah Ezekiel Street, Rangoon.
 Salarak, Phra Phraison, Siamese Agent & Forest Officer, Commissioner Road, Moulmein.
 Saung, U Po, Pleader, Toungoo.
 Saw, H. Po., B.A., Addl. District Magistrate, Pyapon.
 Scott, G. E., East India United Service Club, 16, St. James Square, London, S. W.
 Searle, H. F., B.A., I.C.S., Settlement Officer, Mandalay.
 *Sein, U Ba, c/o Chief Engineer, Burma Railways, Rangoon.
 Sein, U Po, A.T.M., Deputy Inspector of Schools, Rangoon.
 *Seppings, F. H., 2, Short Street, Kemmendine.
 *Set, U., B.A., Deputy Accountant-General Burma.
 Sewell, Lieut.-Col. J. H., 6, Bagaya Phoongyee Road, Kemmendine.
 Shaw, J., Asst. Superintendent, Namhsan, N. S. S.
 Shein, U Ba, Pleader, Pyapon.
 Sheild, D., Headmaster, St. Luke's School, Toungoo.
 Shwe, U San, F.R.G.S., 64, Creek Street, Rangoon.
 Sin, U Po, E. A. C. (retired), Bazaar Street, Prome.
 Sit, U Po, Pleader & Municipal Commissioner, Tharrawaddy.
 Sloss, D. J., C.B.E., Principal, University College, Rangoon.
 Smith, J. R. Baird, Irrawaddy Flotilla Co., Ltd., Rangoon.
 *Smith, H., Burleigh, Wellington, Shropshire.
 Smyth, W. J., B.A., I.C.S., Deputy Commissioner, Sandoway.
 *Snow, C. A., M.A., Director of Public Instruction, Burma.

- Stainer, S.F., 3/20 Burma Rifles, c/o Messrs: A. Scott & Co., Rangoon.
 Stamp, Dr. L. D., B.A., D.Sc., F.G.S., University College, Rangoon.
 *Stewart, J. A., M.A., M.C., I.C.S., Deputy Commissioner, Thaton.
 Street, W., Deputy Commissioner, Henzada.
 †Stuart, J., Ivy Bank, Liberton, Midlothian, Scotland.
 Su, Maung, c/o Prof. Rathstein, Pariser Str., 3, Berlin, W. 15.
 Su, U, *Bar-at-Law*, China Street, Mandalay.
 Sulaiman, Meer, M. A. Student, University College, Rangoon.
 Surty, C. M., Merchant, 45, Park Road, Rangoon.
 Sutherland, C., S. D. O., Thayetmyo.
 *Swan, U Boon, Pleader, Pyapon.
 Swe, U Ba, (2) B.A., S. D. O., Kyauktan.
 Swe, U Chit, Junior Assistant Registrar, Co-operative Societies, Mandalay.
 Swinhoe, R., Solicitor, Mandalay.
 *Swithinkbank, B. W., I.C.S., Deputy Commissioner, Pegu.
 *Symns, J. M., M.A., I.E.S., Inspector of Schools, (on furlough)
 Tapa, James, M.A., Lecturer, Judson College.
 *Taylor, L. F., B.A., I.E.S., Research Lecturer, University College, Rangoon.
 Te, Rev. Ba, A. B. Mission, Taunggyi, S. S. S.
 Teik, Saw Tun, B.A., Asst. Govt. Translator, Rangoon.
 †Temple, Sir Richard Carnac, Bt., C.B., C.I.E., F.S.A., c/o Messrs. H. King & Co., 9, Pall Mall, London, S. W.
 Teong, Taw Sone, B.A., B.Ag., Superintendent, Agricultural Farm, Mandalay.
 Tha, U Ba, B.A., Addl. District Judge, Myingyan.
 Tha, U Po, Lecturer, Intermediate College, Mandalay.
 Tha, Capt. R. R. H. O., I.M.S., c/o Messrs. A. Scott & Co., Rangoon.
 Tha, U Shwe, (2), K.S.M., Myingyan.
 Than, U Aung, B.A. Asst. Collector, Town Lands, Mandalay.
 Than, U Ba, Township Officer, Kyaunggon.
 The, U Po, Addl. District Magistrate, Moulmein.
 Thein, U Ba, B.C., L.M.C., 28, Tamwe Road, Rangoon.
 *Thein, Saya, Hmawbi (Insein).
 Thi, U Ba, Income-tax Officer, Rangoon.
 Thi, U Ba, Agent, The Yomah Oil Co., Ltd., Minbu.
 Thin, U, Pleader, Pyapon.
 Thin, U Ba, Deputy Commissioner, Minbu.
 Thin, U Po, (2), E.A.C., Addl. Magistrate, Bassein.
 Thin, U Po, (1), K.S.M., A.T.M., E. A. C. of Forests, Naba (Katha).
 Thin. U Po, Deputy Superintendent, Civil Veterinary Department, Sagaing.
 Thon, U Po, B.A., Asst. Lecturer in Mathematics, University College, Rangoon.
 Thoo, U San, Rice Miller, Honorary Magistrate, Kwelwe, (Myaungmya).
 Thwin, J. B., R. A., Treasurer, 121, Strand, Ma-ubin.
 Tin, Maung (5), Headquarters Assistant, Shwebo.

- *Tin, Prof. Pe Maung, M.A., B. Litt., I.E.S., University College, Rangoon.
 *Tin, U, A.T.M., K.S.M., 22, 50th Street, Rangoon.
 Tin, U Hla, Akunwun, Pakokku.
 To, U Saw Po, Deputy Inspector of Schools, Thaton.
 *Tripp, L. M. G., c/o Messrs. Fabricius & Co., Pakokku.
 *Tsain, U, *Bar-at-Law*, Pegu.
 *Tun, Dr. Aung, M.B., Ch. B., Hygiene Publicity Officer, Rangoon.
 Tun, U Ba, Township Officer, Chaungzon.
 Tun, U Ba, Headquarters Assistant, Mergui.
 Tun, U Po, E. A. C. of Forests, 27, Godwin Road, Rangoon.
 Tun, U Thet, 25, Prome Road, Rangoon.
 Tway, U Chit, Inspector of Police, Pyu, (Toungoo).
 U, U Tun Hla, Resident Excise Officer, Maungdaw (Akyab).
 U, U Kyaw Zan, Miller, Akyab.
 Vardon, S. D, Advocate, C Road, Mandalay.
 Verhage, A., Merchant, Messrs. Massink & Co., Ltd., Rangoon.
 Walters, Rev. H. C., W.M.M. High School, Mandalay.
 *Ward, K. M., University College, Rangoon.
 *White, Sir Herbert Thirkell, "The Cottage", St. Ives, Cornwall.
 Wilkie, H. G., I.C.S., c/o Messrs A. Scott & Co., Rangoon.
 *Williamson, A., M.A., I.C.S., Deputy Chairman, Rangoon Development Trust.
 *Wilson, L. D., Lecturer, Insein Engineering Institute, Insein.
 Win, U Po, (2), Akunwun, Mergui.
 Wisaham, Miss M. R., Roslyn, Prome Road, Rangoon.
 *Woods, E. A., Commander, Irrawaddy Flotilla Co., Ltd., Rangoon.
 Wun, U So, Junior Assistant Registrar, Co-operative Societies, Shwebo.
 Ya, U Tun, A.T.M., Deputy Commissioner, Myaungmya.
 Yah, U Kyaw, Subdivisional Police Officer, Myanaung.
 Yain, The Hon'ble Mr. L.A., Minister, to the Govt. of Burma.
 *Yee, U Po, Rice Miller, Hony. Magistrate, 3, Edward Street, Rangoon.
 Yin, U Ba, Subordinate Judge, Myaungmya.
 Yin, U Tun, Township Officer, Daik-u.
 Yin, U Tun, Head Master State Anglo-Vernacular School, Namtu.
 Zahur, Mohamed, Government High School, Akyab.
 Zan, U Ba, Subdivisional Officer, Meiktila.
 Zan, Abraham Shwe, Deputy Inspector of Schools, Moulmein.
 Zan, Saya, Head Master, R. C. M. School, Thonze.

OBITUARY. 1924.

The Right Rev. Bishop A. Cardot,
 Mr. A. A. Nicholas.

If you wish to become a member or to propose a friend for membership, you are requested to sign the attached slip and forward it to the Hon. Secretary. If not, please pass on the forms to one of your friends.

BURMA RESEARCH SOCIETY.

Patron:

HIS EXCELLENCY THE GOVERNOR OF BURMA.

THE BURMA RESEARCH SOCIETY was founded in 1910. Its objects are the study and encouragement of Art, Science, History and Literature in relation to Burma, and the promotion of intercourse between members of different communities with a common interest in such objects. Meetings are held periodically at University College, Rangoon, at which papers are read. The principal work of the Society is the publication of a Journal, which appears thrice a year and is supplied free of charge to members. Articles by well-known scholars such as Messrs. C. O. Blagden, C. Duroiselle and R. Halliday have appeared in the Journal, but the Editor is chiefly dependent for contributions on Burmese and English members of the Society stationed in various parts of Burma. The articles are mostly on Burmese history, archaeology, literature, art, language, philosophy, religion and folklore. They are of interest not only to scholars but also to general readers who are attracted by Burma and its people. The Editor welcomes contributions from members who have made a study of any special subject or locality. Illustrated articles and articles in Burmese are always welcome. Apart from its Journal, the Society is also publishing Burmese literary and historical works and translations, and in this branch of its activity enjoys the assistance of the best Burmese scholars. It possesses a growing library for the use of members.

The Society is dependent for its funds entirely upon the subscriptions of members. The subscription is Rs. 15 yearly, payable in advance, or a single sum of Rs. 150.

The Society invites applications for membership. Anyone who desires to join, may ask a member to propose him, or may write to the HONORARY SECRETARY, BURMA RESEARCH SOCIETY (Bernard Free Library), RANGOON. The attached form may be used.

To

THE HONORARY SECRETARY,

Burma Research Society,

(Bernard Free Library), RANGOON.

* I propose for election as a member of the BURMA RESEARCH SOCIETY the name of.....Designation
.....Address.....

* I desire to be elected a member of the BURMA RESEARCH SOCIETY.

Name.....

Designation.....

Address.....

* Delete as circumstances require.

THE BURMA RESEARCH SOCIETY

(FOUNDED 1910.)

*For the Study and Encouragement of Arts, Science, History and Literature
in relation to Burma.*

PATRON.

HIS EXCELLENCY SIR SPENCER HARCOURT BUTLER,
G.C.I.E., K.C.S.I., I.C.S.

COUNCIL.

President.

THE HON'BLE MR. JUSTICE U BA, B.A.*

Vice-Presidents.

U'SHWE ZAN AUNG, A.T.M., K.S.M.
THE HON'BLE U MAY OUNG, M.A., LL.M.
C. W. DUNN, Esq. C.I.E., I.C.S.

Honorary Secretary and Treasurer.

A. CASSIM, Esq., B.A.*

Honorary Editors and Librarians.

PROF. PE MAUNG TIN, M.A., B. Litt., I.E.S.*
PROF. F. J. MEGGITT, M.Sc., Ph.D., I.E.S.*

Executive Committee.

U PO BYU	PROF. D. G. E. HALL, I.E.S.
U TIN, K.S.M., A.T.M.	S. G. GRANTHAM, Esq., I.C.S.*
L. F. TAYLOR, Esq., M.A., I.E.S.	W. G. FRASER, Esq., I.E.S.
DR. G. R. T. ROSS, I.E.S.	J. S. FURNIVALL, Esq.
U PO SEIN, A.T.M.*	M. S. COLLIS, Esq., I.C.S.
U TUN PE, M.A.*	D. B. PETCH, Esq., I.C.S.
D. J. SLOSS, Esq., M.A.	U SET, B.A.
	PROF. W. N. ELGOOD, I.E.S.

General Committee.

J. L. McCALLUM, Esq., I.C.S.	R. C. J. SWINHOE, Esq.
U THEIN	SAN SHWE BU, Esq.
MAJOR C. M. ENRIQUEZ	CH. DUROISELLE, Esq., M.A.
U KYAW DUN, K.S.M.	U THA TUN AUNG, B.A.
TAW SEIN KO, Esq., C.I.E.	J. A. STEWART, Esq., I.C.S.
H. F. SEARLE, Esq., I.C.S.	CAPT. G. H. M. MEDD.
DR. O. HANSON.	U THA KIN.
	G. E. HARVEY, Esq., I.C.S.

*Members of the Sub-Committee.

GLASS PALACE CHRONICLE

OF THE KINGS OF BURMA (HMANNAN YAZAWIN).

TRANSLATED BY
PE MAUNG TIN

AND
G. H. LUCE,

PUBLISHED BY THE OXFORD UNIVERSITY PRESS
FOR THE TEXT PUBLICATION FUND OF THE BURMA RESEARCH SOCIETY

The *Glass Palace Chronicle*, the most important of the native histories of Burma, was compiled in 1829, by a committee of scholars appointed by King Bagyidaw of Burma, who based their work on earlier chronicles, inscriptions, and other ancient records.

The present translation omits the first two parts of the Chronicle, as they merely retell the story of Buddhism and of the Buddhist kings of Ancient India, and begins at the point where the story moves to Burma. The third part opens with the history of the three Burmese kingdoms of Tagaung, Tharehkittara and Pagan. The fourth and fifth parts of the present volume cover perhaps the most interesting period of Burmese history, that of the kingdom of Pagan—the city on the middle Irrawaddy, a hundred miles below Mandalay, whose noble temples and vast ruins still astonish visitors. The volume closes with the fall of Pagan (1287 A.D.), consequent on the invasion of Burma by the armies of Khublai Khan. It is hoped that the response to this publication will justify the Burma Research Society in continuing the translation and adding notes in subsequent volumes.

ORDER FORM FOR MEMBERS ONLY.

Special Reduced Price for Members of the B. R. S. Rs. 5 per copy
(in paper covers).

To

THE HONORARY SECRETARY,
Burma Research Society,
(Bernard Free Library), RANGOON.

DEAR SIR,

I am a member of the Burma Research Society. Please send
me.....^{copy}_{copies} of the translation of the Glass Palace Chronicle
V. P. P.,
for which I enclose the sum of Rs.....

Name.....

Designation.....

Address.....

JOURNAL OF THE BURMA RESEARCH SOCIETY,

Volume XVI, Part II, August 1926.

C O N T E N T S .

	PAGE.
"A Brief Account of the Kingdom of Pegu" translated from the Portuguese by A. Macgregor, I.C.S., Retd., with a note by D. G. E. H.	99
The life of U Ponnya by Saya Oh (Burmese)	139
The Tamarind tree etc. by U Shan (Burmese)	150
The late U May Oung (Obituary Notice)	158
Proceedings of the Society	159
Recent Additions to the Library	161

"A Brief Account of the Kingdom of Pegu."

This work, which is given in full after these introductory remarks, is the translation, by A. Macgregor, Esq. I.C.S., Retd., of a Portuguese work of anonymous authorship, the last edition of which was published at the Rollandian Press, Lisbon, in 1829. Its full title is "A Brief Account of the Kingdom of Pegu in the East Indies with the story of its conquest by the Portuguese in the time of the Viceroy Ayres de Saldanha under the command of Salvador Ribeyro de Souza, called Massinga, a native of Guimaraes, whom the natives of Pegu chose for their King in the year 1600."

Beginning with a somewhat faulty description of the geography of Lower Burma, it proceeds (in Chapter II) to tell the story of the failure and deposition of Nandabayin, the son of Bayinnaung in 1599. Then follows an account of the seizure of Syriam by Salvador Ribeyro de Souza at the instigation of the notorious mercenary captain Felipe de Brito, who according to the writer, left the actual management of the scheme in the hands of de Souza, while he busied himself with diplomatic negotiations elsewhere. The greater part of the work is taken up with a eulogistic account of de Souza's defence of the place against all comers during the period between the founding of the Portuguese fort in 1600 and the return of Felipe de Brito in 1602. The writer, evidently an enthusiastic follower of de Souza, is at pains to secure for his hero due mead of praise for glorious feats of arms the reward for which was reaped by de Brito "who," say he, "was all the time in Bengal, in the service of the Moorish King of Arracan, far removed from the trials and dangers that de Souza had passed through. Ulysses thus enjoys the prizes won by Ajax."

The author shares with other writers of his day the capacity for imaginative exaggeration. Thus he speaks of the city of Pegu as "crowded with countless people of diverse nations" and abounding "with everything necessary for human life, pomp, festivity, gold, silver, perfumes and a wealth of precious stones, especially rubies." His obvious partisanship for his hero, de Souza, makes one more than suspicious of the strict accuracy of many of his statements. Nevertheless as historical material this pamphlet—for such we must call it—is both fascinating and informative. Not only does it furnish us with a good, and largely just, picture of conditions in Lower Burma during the interregnum between the deposition of Nandabayin in 1599 and the accession of Anaukpetlun (Maha Dhamma Raja) in 1605, but it also provides us with many interesting details of the Portuguese occupation of Syriam, and it gives us the clue to the motives behind that adventurous escapade. Like the French and English East India companies of the eighteenth century the Portuguese of de Brito's day valued Burma as a source from which ship-building materials—the best in the East—might be derived,

The chaos into which the Kingdom of Pegu had fallen at the close of the sixteenth century, was dangerous to Portuguese interests, since the country, in the words of our writer, "lay open to every stranger, Moor, Turk, European to make themselves master of its fertile fields and the rich commerce of the neighbouring mines." The two adventurers therefore, with true instinct of empire-builders, conceived the bold design "to give the Indian establishment a Kingdom on the mainland, especially one so abounding in supplies and neighbour to Malacca, from which not only that city, the key of the whole south, but also the forts of Solor, Amboyna, and Molucca could be provided easily and plentifully without waiting for the slow and tardy succour of Goa, which so many times had endangered them."

Had the Portuguese possessed the necessary resources for carrying such an enterprise to success, the names of de Souza and de Brito might have won a more honoured place in the history of Portuguese imperialism. Their project was not unstatesmanlike, and they themselves were at least more dignified than most of the scallywag horde of *feringi* who infested the Bay of Bengal in the palmy days of Chittagong. Portugal, however, had lost the early vigour of imperialism. Twenty years of union with Spain, whose interests were all in the West and the New World, had set the seal upon the doom of her great Eastern Empire. The new maritime powers, the United Provinces and England, finding Portugal forced into the Spanish struggle against them, attacked her ports and ravaged her sea-borne commerce, with the same crusading vigour that urged them against Spain. The defeat of the Spanish Armada in 1588 and other naval disasters were more crippling to Portuguese imperialism than to Spain, since the former's empire depended to a greater extent than did Spain's upon sea-power. Thus at the very moment when de Souza and de Brito were attempting to extend the Portuguese Empire in Pegu that Empire was already moribund and the two new competitors, the Dutch and the English, were already as organised trading forces openly challenging the century-long Portuguese monopoly of the trade of the Indian Ocean. The Syriam adventure therefore was from the outset doomed to failure.

D. G. E. H.

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

[Extracts from Mr. Macgregor's letter, forwarding the translation—Editor.]

I have not been able to discover who the author was . . . the book is a 'New Edition' published in 1829. The story ends with Salvador Ribeyro's departure from Burma in March 1603, so the first edition was later than that, and seems to have been published before the end of the reign of Philip III, *i.e.*, not later than 1621: see the first paragraph of Chapter I and also the reference in the last paragraph of Chapter IV to one of Ribeyro's companions who is said to be 'now living in Nagapatam.' Portugal began to lose her trading-station in India to the Dutch early in the 17th. century, but there is no reference to this in the book, and this inclines me to think that it was written quite soon after the events it describes; soon after 1603 rather than shortly before 1621.

It is not easy to gather from the book whether the author was ever in India. The reference to 'the Supreme Council residing *in this Court* with His Majesty' in Chapter XI indicates that he was in Portugal when he wrote it: also his statement a few lines above that he had seen the documents produced by Salvador Ribeyro before the Supreme Council. Salvador Ribeyro seems to have gone to Portugal to assert his rights, and the book may have been written by a literary friend of his who took an interest in his case: apparently while Ribeyro was still alive. The author was a cultured man, versed in ancient literature and the Holy Scriptures, and mentions in one place that he had written a history of Ceylon in the Viceroyalty of Mathias de Albuquerque. (I cannot find anything about Mathias in the Encyclopedea Britannica, but he was later than Albuquerque 'the Great' whose Christian name was Alphonso: see my footnotes in the translation.

A BRIEF ACCOUNT
OF THE
KINGDOM OF PEGU
IN THE EAST INDIES

WITH THE STORY OF ITS CONQUEST

by the Portuguese in the time of the Viceroy Ayres de Saldanha, under the command of Salvador Ribeyro de Souza, called Massinga, a native of Guimaraes, whom the natives of Pegu chose for their King in the year 1600.

NEW EDITION.

LISBON :

AT THE ROLLANDIAN PRESS.

1829.

With the License of the Board of Permits of the Court.

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

- INDEX OF THE CHAPTERS
OF THE CONQUEST OF THE KINGDOM OF PEGU.
- CHAPTER I. Briefly describing the Kingdom of Pegu, and indicating certain noteworthy events therein before its conquest by the Portuguese.
- CHAPTER II. Of the revolt of the King of Siam, and death of the Prince of Pegu, the cause of the total ruin and dissolution of that Kingdom.
- CHAPTER III. How Salvador Ribeyro de Souza came to Pegu, and built the Fort of Syriam, opening the way for the rule of the Portuguese in that country.
- CHAPTER IV. Of the victory which Captain Salvador Ribeyro de Souza gained over a great fleet which by the command of the King of Arracan the King of Prome sent to destroy the Fort of Syriam.
- CHAPTER V. Of the sally which Captain Salvador Ribeyro made to the camp of Banha Lao, whom he killed in his own quarters, and how he routed his men and made the King of Prome, who was coming to join forces with Lao, retreat.
- CHAPTER VI. Of the close siege which Banha Dalá laid to the Portuguese Fort, and how they defended themselves for six months against the terrible assaults of their enemies.
- CHAPTER VII. How the soldiers, despairing of the defence of the Fort, mutinied against the Captain and eleven deserted him; and of the artifice and rare prudence which he employed so that the rest might not forsake him.
- CHAPTER VIII. How Salvador Ribeyro de Souza was succoured, and resolved to attack the enemy's fort, and of the preparations that were made on both sides.
- CHAPTER IX. How the Portuguese took the enemy's fort by force of arms and destroyed it utterly.
- CHAPTER X. Of the equipment and the engines with which Banha Dalá came to fight against our Fort, and how by a plain miracle he withdrew without again daring to attack the Portuguese.
- CHAPTER XI. How ships came to Syriam with letters from the King of Portugal and the Viceroy of India, whom Salvador Ribeyro informed of the miraculous victories which God had given him, and of the state of that Kingdom.
- CHAPTER XII. How King Massinga was persuaded by Banha Dalá to make himself King of Pegu, and Salvador Ribeyro went out to meet him and slew him and defeated his powerful armada,

CHAPTER XIII. How the natives made Salvador Ribeyro de Souza King of Pegu, and of the gifts sent to him by the King of Toungoo and other Kings, who approved his election through their ambassadors.

LAST CHAPTER How Salvador Ribeyro de Souza built a new Fort, how Filippe de Brito de Nicote came to Syriam and King Massinga with admirable loyalty made over to him the Fort and the Kingdom in obedience to the order of the Viceroy of India.

A BRIEF ACCOUNT
OF THE
KINGDOM OF PEGU
IN THE EAST INDIES

WITH THE STORY OF ITS CONQUEST,

CHAPTER I.

Briefly describing the Kingdom of Pegu, and indicating certain noteworthy events therein before its conquest by the Portuguese.

Having to write of the first conquest made by the Portugese in the Kingdom of Pegu, it seemed necessary to me to give some description of the part of the world in which it lies, and the more noteworthy events that have occurred in it. Above all it is my desire and intention, as there is this treatise in the Spanish language (1), to inform the world what has been done in the Provinces of the Crown of Portugal in the time of Philip the Third (2), King and Lord of Portugal and Castile, and as such, with his great possessions in Europe, and both the Indies outside the Tropics, Most Potent Monarch in the whole round earth, from the East to the West. Nor within the Tropics, in all that Almighty God has set between Cancer and Capricorn, does any other Christian Prince saving what the Abyssinian possesses hold dominion over one span of earth, but only our Sovereign Lord and King, and the infidels, Moors and heathen inhabiting vast regions of diverse climes, who serve him as subjects or glory in his alliance, while they tremble at the greatness of his name.

As our Joao de Barros' (3) elegant pen has described the territory of the Kingdom of Pegu in Chapter 4 of the third Decade of his Asia, it will be enough for me to summarise by way of short epilogue what that Kingdom is, in what part situated, and in what state our people found it when they conquered it, more by Divine favour than human power. The East Indian Sea forms a Bay, which the ancients called the Gangetic, and we the Gulf of Bengal. It extends over nearly twenty-five degrees of latitude, in Asia Major, between the Tropic of Cancer and the Equinoctial Line. Cape Comorin stands on the West, at seven and

(1) i.e., the author means to do for Portugal what the recent Spanish writer has done for Spain.

(2) Philip III reigned from 1598 to 1621, the second of the three Spanish Kings who ruled over Portugal from 1581 to 1640 on the death of Dom Sebastian of Portugal without direct heirs.

(3) Born 1496, died 1570. The "Portuguese Livy" and first great historian of his country. The four Decades of his "Asia" were published respectively in 1552, 1553, 1563, and the last in 1615 after his death.

a half degrees of North latitude and nearly a hundred degrees of longitude, and (on the East) the point of Malacca at three quarters of a degree towards the same Arctic Pole and a hundred and thirty of longitude measured from a line drawn through Iceland and Cape Verde Island so as to touch Santa Maria not far from the Tropic of Capricorn. Its western shores contain the Coromandel Coast or San Thomé, and the Kingdom of Orissa. Leaving these, and coming to the eastern side of our plan—which in respect of the Kingdom lies to its West—we find the inner and most northerly part of the Bay receiving the waters of the famous River Ganges, whose swollen arms cut the Kingdoms of Bengal into many parts, seeming bent on war with the sea as if indignant that there its name should come to an end.

Bordering on Bengal the Kingdom of Arracan stretches along the shore of the sea, ending at Porto de Negrais, the first harbour; then the Kingdom of Pegu and the second harbour called Cosmî; next Syriam nearly in the middle, then Sittang (4) and lastly Martaban marking off the boundary of the great Kingdom of Siam, whose power extends beyond the Strait of Singapore as far as the limits of China at the Kingdom of Cachó or Cochin-China. According to our Barros the distance is something more than ninety leagues from the town of Sedoe to the town of Rey, although there are not more than four degrees and one third between the one and the other, the reason being that the coast does not run straight all the way. On its eastern side (the Kingdom of Pegu) borders in the shape of a half moon on the peoples of Burma (5), a country of rugged mountains extending between Pegu and Siam and containing the Kingdoms of Ava, Toungoo (6) and Prome. To the south the Martaban river divides it all the way from the Kingdom of Siam until it reaches the wild ranges of the aforesaid Burmese among which also ends the Kingdom of Arracan, leaving in the middle the Kingdom of Pegu a level, fertile and pleasant land, as it were the heart of all the surrounding territories over a width of ninety leagues, which is also, as we have said, its length. On the east it is protected by the dense forests and craggy heights of Toungoo, on the west by the sea, and on the north and south by the Negrais and Martaban rivers (respectively). The four harbours already named are made in fair rivers of sweet water, from which they take the names we have given them; and those rivers, dividing the land like a well-watered garden, enrich it abundantly with all manner of food and fruit, animals wild and tame, fish innumerable, and fowl of every kind. Uniting higher up in one stream, which flows by the walls of the populous city of Pegu, the ancient seat of its Kings and distant only twelve leagues from the sea by the Syriam river, by reason of their much traffic they make it powerful and rich, and even so wanton and luxurious. It stands right on the river, enclosed by strong walls of lime and masonry filled in with earth in such

(4) Sartao in the Portuguese.

(5) Bramas in the Portuguese.

(6) Tangu in the Portuguese.

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

manner that the body of the city, set on the crown of a slightly ridge, stands as high as the top of the wall, which rises many fathoms and is surrounded by a moat filled with permanent water, having its bridges, or dikes, to the gates for the service of the inhabitants, to supply their daily needs. It is five leagues round, and one in width, with comely houses and a conspicuous citadel, and was crowded with countless people of diverse nations, and abounded with everything necessary for human life, pomp, festivity, gold, silver, perfumes and a wealth of precious stones, especially rubies. In the year 1509, when Antonio Correa, by command of the invincible King Menoel (7)—Diego Lopes de Siqueyra being the Governor of India—first concluded peace and friendship with the King of Pegu, that Prince was a native of his Kingdom and descended from its ancient Kings, and the less powerful as he held little more than the single territory whose bounds we have described.

Afterwards with the help of some Portuguese he conquered part of the Burmese Kingdoms, and while resting on laurels that quickly fade the Governor of the Kingdom of Toungoo revolted against him. This man was a Burman, and with a force of men of the same race, the most warlike among those nations, he deprived him of his Kingdom and his life. Nor did Fortune stop at lifting up this tyrant from vassal to King, but gave him victory upon victory until he had gained by force of arms the Kingdoms of Prome, Meleytay, Chalao, Mirandu and Ava, all in the land of Burma, which runs continuously along the banks of the great river that rises in the lake Chiamay and extends towards the North more than a hundred and fifty leagues. To conclude the tragedy; in what must have represented the world with these Kings of Pegu, they succeeded in a short time in making themselves the monarchs—so the story goes—of sixty Kingdoms, among which after great labours, costly marches and bloody battles they overcame and made vassal the King of Siam, who can put in the field a million armed men and an incredible number of elephants for whatsoever enterprise, leaving his frontiers garrisoned and supplied.

This last King was with excess of power so proud and haughty that he despised all other Princes, and if they said to him of any that he was powerful, he would enquire if he gave estates to his grandees or pay to his soldiers, and the reply being yes, he would call him Ximim, that is Captain, for this tyrant never gave pay or wages to those who served him, rather the Kings and grandees, his vassals, never appeared before him without bringing him the richest gifts, and he kept a guard of people of every sort according to each one's means.

In all those Kingdoms and far-spreading dominions the King alone was lord of the whole (soil), and from him his subjects received it for a certain time, or for maintenance, but no one has his own property, with the obligation to serve him with a fixed number of foot-soldiers, or horsemen, or elephants, provided with everything requisite from the hour at which they were called up for three days, during which they remained in camp preparing to march.

(7) Dom Manoel I, "The Great" or the "The Fortunate", in whose reign (1495-1521) the sea route to India was discovered and a Portuguese Empire founded.

The Peguans for the most part are brown, though some are fairer, especially women of high birth and delicate nature. As a people they are too pleasure-loving to make hardy soldiers, and the conclusion is that it was more by numbers than by military strength that they so greatly extended their Empire. The truth is, that Kings in the East make use of foreigners valued for the prime energy of their performances.

The Peguans have little turn for the mechanical arts, and the clothes they wear are imported from the Coromandel Coast and other parts. The nobles wear long and showy cabavas of linen and silk, and the common people whatever their means can afford. They also lack salt. The Portuguese give and can withhold from them, one thing and another; and by reason of this, and the present state of the Kingdom, it will be easy to secure their obedience. There is an important point in which they differ from the dwellers in India about the Ganges. The latter are very superstitious as regards eating and drinking with strangers. They look on all other nations as unclean, and will only eat with their own kind. Their superstition here is so great that the shoemaker may not enter the houses of the Brahmins, who are the priests, nor may the tailor's children marry with those of the goldsmith. This keeping aloof, and not mixing among themselves greatly hinders the business of conversion (8). The Peguans, on the contrary, eat beef, an abomination to the peoples of almost all India and drink wine, and partake without scruple of everything that we admit to our daily fare, regarding themselves honoured by our intimacy.

In Pegu there is much gold, silver, and other metals, and they bring them from mines in many parts very rich in gold, and extract it seven leagues above the city of Pegu beside the Sittang River, in which, and in the Syriam River, the natives find among the sand some of the superior assay, besides the much that they bring in from the Jangoma Kingdom, Ava, and other Kingdoms of the Burmese and Laos, which border as we have said on Pegu. There are rubies in abundance, excelling in size and quality, and other stones such as diamonds, sapphires and other kinds. These are collected at the ports already mentioned, which are nearer stepping-stones to India than those on the Hudia and Cambodia side. The country is rich in shellac, a trade of great importance, and much benzoin is loaded in its harbours. If we choose to give first place to the King of China, he of Pegu was second in population and wealth in the East after he subdued the King of Siam, till then one of the three most powerful in that part of the world. Yet all those resources were wasted and destroyed by a tyrant's savage fury, turning against himself the strength at home which none from outside seemed able to overthrow. (9).

(8) The declared object of the Portuguese in their dominions was "to get Christians and spices".

(9) The faultiness of the author's geography in Chapter I, may, I suggest, have been due to ignorance of the notch in the coast of the Bay of Bengal, from Negrais to Martaban, causing him to assume that the rivers take a westerly course to the Bay and that the sea was to the west instead of the South of the Kingdom of Pegu. He was aware that there was a delta, but it is not clear whether he connected it with the "great river" or Irrawaddy. The Portuguese of that time were mariners and kept to the coasts. Away from the sea they were said to be "like fish out of water".

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

CHAPTER II.

Of the revolt of the King of Siam, and death of the Prince of Pegu, the cause of the total ruin and dissolution of that Kingdom.

Liberty is so desired, and so conformable with man's nature, that to gain it he will expose his life a thousand times to manifest dangers. The King of Siam lived in much resentment, and weighed down with grief and sadness, at the thought of the yoke to which he found himself subjected. He could not believe himself a King, or esteem the greatness of his state, when he beheld himself, an erstwhile sovereign Prince, unhappily become the servant of a tyrant who not long before was a slave and had now acquired such wide dominion. He thought himself unworthy of his ancestors, and that the brute beasts and even insensate things reproached him for his faint heart and poor spirit. So considering, he resolved to lose his Kingdom, and with it his life, rather than live without honour, humbled and disgraced. He refused the tribute he had been accustomed to pay, and foreseeing what must happen to him, collected the best and biggest army he possibly could.

The proud Pegu was touched to the quick by this revolt, and recognising the strength of his adversary, collected as many men, elephants, and pieces of artillery as were required to humiliate such a powerful foe. As General of the army, which laid waste the fields and used up the rivers as it passed, he appointed his elder son, of whose worth he had formed a high opinion, accompanied by Kings and served by the best captains in his states.

The King of Siam was advised of the force with which the young Prince was seeking him, and to show that, if Fortune had him down, he had over and above of resolution and kingly spirit, he went out to meet him on the borders of the two kingdoms, with such a powerful army that the King and Peguan captains deemed victory very doubtful. The armies were in sight of each other, and the King of Siam, considering the risk of contending with men favoured by Fortune and mindful of former victories, sought means to avoid a pitched battle. He sent word to the Prince by an envoy, that this war was not waged on account of wrongs done by the one Kingdom to the other, or in a public cause in which the subjects were concerned, but merely for the honour which the father claimed in having such a vassal, and which the Prince himself was to inherit; wherefore it was fitting that he should show himself worthy his own prowess of the glory of such a father, and instead of making the innocent people pay for the personal pretensions of their rulers, should agree to the quarrel being decided by single combat between the young and mettlesome Prince himself and an old and feeble king; on the condition that if the Prince came off victor, the king would do what he commanded him, and if the contrary should be the result, he desired nothing more than to part for their Kingdoms in friendship, and in the love of the King of Pegu, the Prince's father.

The young man accepted the challenge on those conditions, and until they should enter on their elephants, picked from among many thousands, the minds of the two mighty armies stood in suspense. Proclamation was made, and as it was impossible for the countless multitude to view the whole combat, the first lines were occupied by the Kings, Princes, and Captains, enough by themselves to make two competent armies in our Europe, and the second by the elephants and cavalry, the latter almost crowded out among so many thousands of those castled animals. A suitable space was left in the middle, and in it the two Princes were placed, to the sound of innumerable instruments, upon elephants caparisoned with splendid and costly harness. Nine Kingdoms, and the honour they coveted more than all, were the prize of victory. For a long time they contended with admirable valour, till at length the Prince's strength yielded to the King's skill, and he fell pierced by a dart which put an end to the hopes of that imperial monarchy.

The armies separated with very unlike demonstrations, the Siamese making merry with festivities, and the Peguans in tears, affliction and grief, bearing the body of their ill-starred Prince. The King of Siam withdrew in triumph with the spoils, and posting himself where he could descry the enemy's doings, attended with all vigilance to what he foresaw might be required if the pact should not be kept. The King of Pegu was awaiting expectantly the news, very certain that would it be the usual, of his favourite son, when out fell the unhappy though honourable death that extinguished the glory and splendour of his past triumphs, augmented by such illustrious trophies. Unused as he was to the reverse of Fortune, he had neither the wisdom to bear with resignation the loss of his son, nor the courage to requite himself upon the enemy, and therefore determined to wreak upon his own subjects the greatest revenge ever known. This tyrant, as we have said, was a Burman, and believing that the Peguans, for the hatred they bore him, and to avoid risking their own lives, consented to the death of his favourite son, he collected an army of his Burmans, lavishly equipped, and gathered into the imperial City of Pegu, which he fortified to excess, enough of stores to last for many years.

This done, he forbade any to sow the fields on pain of death. Next he had all the fruit trees cut down, and all the cattle and animals killed, that the people might have none thereafter to put to use. Soon there came on the land an intolerable famine, exceeding any that ever was in Samaria or Jerusalem. It is beyond a doubt that in their extremity they cut up the flesh of wretches who perished and sold in the shambles, and in place of pots they boiled the brains in the skulls of the dead, using their bones for fuel to boil and roast the flesh that covered them. Mothers killed their tender children to sustain those yet unborn. What most obliges fear and wonder is that he made the Burmans set on fire and consume the great and populous towns and all the other habitations of people and then put to the sword, without distinction of sex or age, those who succeeded in escaping from the flames, with the result that, the wretched

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

inhabitants being slain, the former seats of great and powerful lords became the abodes of tigers and other wild beasts, without any more trace being left at all, but the horrid cinders, and a greater silence on the earth than human thought can imagine.

Some managed to escape the early years of the famine by taking refuge in the neighbouring Kingdoms of Arracan, Burma and Siam. That the inhuman tyrant might feel what he had inflicted on others, he was besieged in the City of Pegu by his powerful enemy the King of Siam who, knowing the miserable ruin of Pegu, came to make himself master of his master, and kept him invested for many years in which now this side, now that, had the better in a series of remarkable engagements. The besieged was often assisted by the Portuguese soldiers, who in his defence performed deeds deserving illustrious record rather than burial among a people whom their own short comings, no less than the inhuman ferocity of their King, rendered unworthy of the favour of such gallant men.

It was not possible for the King of Siam to maintain the siege in the winter, owing to the great numbers he had brought in his army, for whom sustenance was not to be had in the wasted Kingdom of Pegu. The season thus compelled him to retire to the lands of his monarchy, and when summer came in again he would return with increased strength to renew the siege. The King of Pegu owned treasures untold, the lure of which brought him succour in the way of supplies from various quarters, over and above what he had already laid in; but it was impossible to keep up provision for an army of the size he had with him, and the calamities that had befallen the country began to be felt in the city.

The neighbouring Kings sought to recover what the tyrant had taken from them at different times, and among them those of Arracan and Toungoo, the latter being the brother-in-law of the besieged, following the reasoning of Siam, came with large forces to possess themselves of the treasure, and with it the author of their like misfortunes. It thus happened that the second son of the King of Pegu, unable to endure the tyranny of his father, and moved by the miseries of the afflicted people, had the opportunity of going over to the King of Toungoo. When the tyrant knew of it he was frenzied with rage, and to punish in his own blood the guilt of his barbarous cruelty he concerted with his brother-in-law to surrender to him with all his treasure on condition that he would cut off the head of the deserter, his only son. He had to save himself from disaster, and thought that in the Court and household of Toungoo he should always be revered as real master and sovereign lord. The false Toungoo acted on the cruel plan, and not on his obligations of truth and loyalty to the credulous Prince who had trusted to the ties of hospitality and family which a King married to his aunt was bound to respect. The King scorned such motives; the Prince was by his orders beheaded; and while the unnatural father glutted his cruel

anger with the innocent blood of his own son, to the perfidious Toungoo the death of the only heir put new life into the hopes he cherished, and by this chance deemed infallible, of the succession to the Empire.

This lamentable tragedy having been enacted, and the execrable Pegu certified of the death which he ought to have mourned all his life, he rewarded the crime by opening the gates of the populous City of Pegu to his son's murderer. God kept this same Toungoo to be the executioner of the accursed tyrant for his barbarous deeds; on whose rich treasures he seized, more unlucky as they were than those of the avaricious Midas (10). The gold was of small estimation beside the quantity and costliness of the precious stones, the tale of which would exceed the credit which modest men desire to be given to their writings. Suffice it to say that he took away elephant-loads of the precious rubies in which the Peguan Kings were rich above all the Princes of the earth. There were sixty images of fine gold, garnished with the richest stones and pearls, and other jewellery besides, in the carrying of which it is certain that several elephants toiled for more than fifteen days.

As soon as the season changed the King of Siam came down to continue the siege, in which he had persevered in the manner we have mentioned for the space of seven years. On learning that the King of Toungoo had made himself master both of the person and the treasures of the tyrant, he took the road with a great body of Siamese cavalry, and slighting the remnant left in the City (for the quantity of gold and silver was so enormous that leavings were unavoidable), he started a bloody campaign to encircle Toungoo and force him to disgorge what rightly belonged to neither of them.

The King of Arracan was aware of the King of Siam's movement, and as it had been agreed before that Toungoo should divide the booty equally with him, he got together the largest army he could to help his partner. Munitions and supplies for the King of Siam's great camp were brought in ships, and in order that failure of victuals might compel him to raise the siege, the King of Arracan fell upon and captured the fleet, leaving Siam helpless to provide for his great numbers. The captains and officials did not dare to inform him of the loss. Taking warning from the success of Pegu, the entire cause of the miserable ruin of his opulent Kingdom, they feared a similar ruin for their own, so overweening are those Oriental Kings, and put off notifying him until the miseries and hardships of the soldiers had revealed the truth. In the camp they were eating all kinds of unclean meat, and had come even to the flesh of their own men, that all alike might share in the chastening of the Divine hand. This powerful King was obliged to retreat, with the enemy stinging his rear in such manner that he reached his kingdom not less chagrined at heart than tarnished in credit.

(10) Midas obtained from Apollo the gift of turning all he touched to gold,

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

CHAPTER III.

How Salvador Ribeyro de Souza came to Pegu, and built the Fort of Syriam, opening the way for the rule of the Portuguese in that country.

Such was the state of the Kingdom of Pegu, when not without special Divine Providence there arrived at the bar of Syriam Salvador Ribeyro de Souza, a native of the Ronfe section of the Guimaraes district of the Douro-Minho province in Portugal, where he was born in Quintaens, the heir of his father Fructuozo Gonsalves de Souza, of pure and noble blood, of the class whom in Spain they call hidalgos, and in Portugal nobles, or cavaliers.

Salvador Ribeyro had served the King for seven years in India in highly honourable enterprises, such as that of the ships of Meca, rout of the fleet of Cutimuca, march on the Cardiva river, under the command of Do Cunhale, and the action of Jafanapatam under the victorious general André Furtado de Mendonca, and had invariably proved his competence as a soldier. He then crossed to Ceylon (11) with General Jeronymo de Azevedo, where he served six years, became captain of a company, and in the famous retreat from Molvana, as well as in other hazardous operations, distinguished himself not less as a valiant soldier than as a prudent commander, as we have written in the history of that Island in the time of the renowned Mathias de Albuquerque (12), Viceroy that was of the States of the East. This period came to an end with his departure from Ceylon for India with the intention of going to Portugal to require satisfaction for his own services and those of his two brothers who in that grave of gallant men had died gloriously in the service of God and the King. The adversity of the season obliged him to put into the gulf of the Ganges in June of the year 1600, and to make the port of Syriam on the principal river of Pegu, only eighteen days after the King of that Kingdom had surrendered to the King of Toungoo, as has been related.

At that time the King of Arracan was at Syriam with nearly a hundred craft great and small, and among other Portugese in his service was Philippe de Brito de Nicote, a native of the city of Lisbon, with the title of Changá, which means the same as Steward. For almost twenty years he had done business in those parts as a merchant, under the protection of the same King of Arracan. This was the beginning of a friendship between him and Salvador Ribeyro de Souza, and after several conversations on the wretched state to which such an opulent Monarchy had been reduced, they went on to talk of the times the Viceroys of India had sought the friendship of its Kings for the purpose of preventing the

(11) Ceylon was Portuguese from early in the 16th century. The Dutch gradually dispossessed them between 1638 and 1658.

(12) Not to be confused with Alphonso Albuquerque "the Great" (1453-1515), founder of the Portuguese Indian Empire, which fell to the Dutch and English in the first half of the 17th century.

Soldan of Babylonia, and then the Turk, from availing themselves of that country's abundance of wood and other things required for the building of fleets. Mathias de Albuquerque took such trouble in this respect that at great cost to the Indian establishment he sent Joao Cayado de Gamboa with a fleet to burn all the galleys which he was informed were being built in Pegu to the order of the Turk, and afterwards sent Louis Barbalho as ambassador to that King, at the very time when the miserable ruin of his proud monarchy was beginning. They beheld the Kingdom destroyed, depopulated of its native inhabitants, and lying open to every stranger, Moor, Turk, or European, to make themselves master of its fertile fields and the rich commerce of the neighbouring mines whose silver, gold and precious stones went out by the before-mentioned ports; all of which redounded to the grave detriment of the Indian establishment and the manifest hindrance of the propagation of the Gospel. They thought that such evils should be obviated, and all possible steps taken to give the Indian establishment a Kingdom on the mainland, especially one so abounding in supplies and neighbour to Malacca (13) from which not only that city, the key of the whole South, but also the Forts of Solor, Amboyna (14), and Molucca (15) could be provided easily and plentifully without waiting for the slow and tardy succour of Gao (16), which so many times had endangered them. As those advantages could be obtained at that juncture with so little cost, it appeared to them of great importance to make, at the bar of the Syriam River, a Fort, the building and defence of which Salvador Ribeyro offered to undertake while meantime Filippe de Brito advised the Viceroy of India of what he did. In pursuance of this plan, Filippe de Brito petitioned the King of Arracan for leave to build at that place a house, in which he and the other Portugese, and Christians on his land, in all some sixty souls, might be able to store their goods. The King gave permission, and presently Salvador Ribeyro began to build a stronghold of wood filled in with earth, and gave out that it was the warehouse of a trader, while concealing with all secrecy that he was a captain of war.

At that time the King of Arracan sent Filippe de Brito de Nicote on a mission to the King of Toungoo, in whose intimacy and credit Brito stood high, concerning the division of the treasure, jewels, and estates of the cruel King of Pegu. In the discharge of this mission Filippe de Brito tarried nearly six months, and when he returned, although not with so much as the King expected, he stayed with him carrying on his duties as Changá. When the King of Arracan desired to depart, the Moors of his following, as they never lose an opportunity to injure Christians, and in those parts they mortally hated and feared

(13) Captured by Alfonso Albuquerque in 1511.

(14) Portuguese from 1521 to 1609 when the Dutch took it.

(15) The Moluccas were taken by the Dutch from the Portugese in 1604.

(16) Captured by Alfonso Albuquerque in 1510 and was the capital of Portuguese India. Blockaded by Dutch in 1603 and in 1639. It was called "Golden Goa" and was a place of great political, military, ecclesiastical and commercial splendour.

the Portuguese, tried to persuade the King not to let them remain, saying that when once they had got a footing they were ill to throw out. The King replied that these were traders, and therefore they need not fear them, and that should any innovation be attempted, there on the spot were his Banhas (the titular lords of those parts), who would throw them out of the country. A sure delusion of those whom Fortune lifts to the top of her wheel, to think that the name of their greatness is enough to restrain and suppress the whole world, forgetting that nothing in prosperity is more certain than the uncertainty of its duration.

CHAPTER IV.

Of the victory which Captain Salvador Ribeyro de Souza gained over a great fleet which, by the command of the King of Arracan, the King of Prome sent to destroy the Fort of Syriam.

When the King of Arracan had gone, Salvador Ribeyro de Souza commenced with great diligence to entrench himself, and as such a great fabric could no longer hide itself under the name of merchants' warehouse, the King of Arracan was advised of the purpose for which it appeared to be carrying on, and repented that he had not paid heed to the warning of the Moors. He accordingly wrote to the King of Prome, and to the Dalá Banha, the premier noble of Pegu, and the Lao Banha, likewise a great lord, son-in-law of Dalá, and Lao with all speed put forth a sufficient army, thinking to demolish the Portuguese Fort, and to kill them all or else drive them out of the Kingdom of Pegu.

The King of Prome with all haste got together a fleet of a hundred ships, great and small, in which it was said that he had six thousand men-at-arms apart from the crews, and provided with everything necessary it came down the river in quest of our Fort. Salvador Ribeyro was advised of the despatch of this fleet, and its strength, and his courage rose with the honourable opportunity of giving a commencement to what he desired, which was to conquer that Kingdom and bring it into subjection and obedience to the King of Portugal, and to deprive the natives of the hope of recovering what the Portuguese had once obtained. He accordingly fitted up, as best he could, three old boats belonging to trading ships which were lying there, and with thirty Portuguese soldiers whom he had, and whom he provided with firearms, jars of powder, and fire-lances, for there were no cannon, set off up the river to meet the enemy. He had decided that in this first encounter with the native foe it imported much to show by his valour the small account in which he held them, and that the Portuguese should attack fiercely and fight with generous mettle to maintain the reputation they held all over the East; a reputation which, acquired by astonishing exploits, had made them the terror of wide provinces and warlike peoples, Persians, Moguls, Tartars and others whose valour oft in ancient times checked the current of

Roman victory, and today sufficiently embarrasses the conquering Turk. As the fighting of a powerful armada with a few boats required a knowledge of the art of war only found where there is large experience, our Captain chose a narrow place in which to await the enemy. With the rising tide in the beginning of the year 1601, their leading lagoas came in sight, vessels after the fashion of galleys, about the same size but narrower, to be attacked with such fury and determination that defend themselves as they might, they were caught before they knew it, and under a deadly shower of bullets and powder jars obliged to take to inglorious flight. Some threw themselves into the water, others jumped ashore, while those farther off took to their oars for safety and returned the way they had come, but with very different speed. Our Captain and his men, few in number but many in the greatness of their valour, in whom God was beginning to perform his wonders were left with thirty lagoas or galleys, as the reward of their toil and trophy of their manhood, besides many other lesser vessels with their pieces of artillery, and not one of our soldiers killed, only four wounded. It was well for the adversary that the flowing tide favoured his escape from the fury of our men, who, not content with what they had taken, were left reproaching themselves that any of the enemy returned alive. The story soon reached the neighbouring Kingdoms, and produced various effects on their Princes, every one of whom felt sick with the fear which the Portuguese arms engendered foreseeing that the little flame might end in a conflagration which would consume everything.

The wonderful success achieved, the Captain turned with redoubled energy to complete the Fort and to equip it to the utmost of his opportunities, being assured that the enemy would not leave him many days in peace. Among those engaged in this undertaking were Francisco Ribeyro de Antas, now living in Negapatam, Simao Rodrigues, Joao da Veyga, Custodio Martins Teyxeyra, a native of the Island of Madeira, Joao Soares de Brito, Francisco Dias, Belchior Peyxota de Viana de Lima, Joao de Pinho, Paulo de Rego, Francisco Oliveyra, and one Tavares, and others whose names it was not possible to keep in mind, perpetual and glorious though the remembrance be that their heroism deserves, not only for their valour in combat, but equally for the admirable perseverance with which they did their part in the unremitting toil.

CHAPTER V.

Of the sally which Captain Salvador Ribeyro made to the camp of the Banha Lao, whom he killed in his own quarters, and how he routed his men and made the King of Prome, who was coming to join forces with Lao, retreat.

Salvador Ribeyro de Souza was not deceived in his calculations. The Lao Banha intended to avert from his head the ruin with which such

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

beginnings threatened him, before our men could add to their forces, for he knew how few they were, and after twenty days had passed he came marching to the new Fort with six thousand picked soldiers. He had first advised the King of Prome, who to avenge his reverse, and to try if the luck was better by land than on the water, where it seemed to him that the Portuguese would be invincible, despatched a new force by land to effect a junction with the Lao Banha. The latter had encamped a few days before at no great distance from the Fort, the idea being that when the King's force arrived, they should deliver a united attack on our men. But it is always a prudent Captain's business to trace the designs of the enemy, and Salvador Ribeyro took such pains to discover them that one night he caught a certain sailing-ship by which the King of Prome was sending word to the Lao Banha that his men were coming down, and to prevent any news of it reaching the enemy he sank the ship and took off the heads of those who came in her.

Seeking then with diligence and fortitude to prevent the junction of the enemy forces, he resolved upon one of the most remarkable enterprises within human memory. The Lao Banha who hoped in good earnest to be King of Pegu, had utterly defeated a great army which the King of Toungoo had sent to compel the obedience of the Lao to him as his King, married to the sister of the cruel King of Pegu, and for that reason the Lao was keeping a close watch on the dispositions which Toungoo was making to avenge the slaughter.

In front of our Fort there was a small tidal creek, on which the Lao Banha had taken up his quarters. Our Captain ordered his four wounded men to post themselves near that place at a certain hour of the night, and when they saw a rocket rise from the direction of the enemy camp, to let off carbines and beat drums with all the noise they could. The Captain took with him the remaining twenty-six soldiers, and as soon as darkness set in started to find the enemy's camp. Little did the fear of an attack trouble the Lao Banha who was aware of the small number of soldiers in the Fort, and although he knew from hearsay that the Portuguese were intrepid, he was far from supposing that they would have a mind to come out into the open, much less the daring to break through palisades with so many warriors inside them. In this opinion he was less careful than befits a general, and had posted neither sentries nor rounds, fully persuaded that the imprisoned Feringis were a small undertaking for his power; this being the honorific name given to all Europeans by the peoples of the East since the day of the famous Gofredo de Bulhao. Very different was the temper of our Captain, to whom the enterprise appeared much beneath Lusitanian (17) worth. He continued on the way he had begun, entered in great silence through the barricade, found the enemy in deep slumber off their guard, and not stopping till he reached the quarters of the Lao Banha, whom he knew by his state and insignia, laid hands on him with such violence and determination

(17) i.e., Portuguese.

that before long he had him dead, in spite of his struggles to save himself, and the efforts of those about him to beat the Captain off, these not being ordinary soldiers but the chief Ximins met for a council of war. Nor had the Portuguese soldiers been backward, nay rather, following the example of their valiant commander, their deeds would deserve eternal mention, if the darkness of the night had not deprived us of particular notice of each one. They caused inextricable confusion in the whole army, for the signal of the rocket had been given, and the four wounded men discharged their guns to the sound of their drums, while at the quarters of the Lao they kept beating the kettle-drums which Captain Salvador Kibeyro had found in the King of Prome's fleet; so that the whole camp was transfixed with terror, imagining that the power of the King of Toungoo was upon them, to wreak vengeance for his slaughtered army. Many of those who were nearer the Lao Banha's quarters, when they saw the havoc wrought by the Portuguese swords after the first discharge of the guns, lost both the wit and the breath to move, and died of fright rather than of wounds. Those farther removed, unable to make out the reason of such confusion and uproar, and hearing on all sides the weapons of war, made for the high road the better to effect their escape, and taking friends for foes, butchered one another to gain a way of deliverance. The news of the Lao Banha's death spread, and in the end the camp was abandoned.

Wonderful is the power of the presence of a King, or commander, on the hearts of those who obey him. One man alone though he be, in him stands the bravery and the confidence of countless armies, and the policy and strength of great Kingdoms and wide Empires. Completely abandoned on the certainty of Banha Lao's death, the camp could be burned by our soldiers, and was soon reduced to ashes, and they returned to the Fort rejoicing in their victory and giving thanks to God for the excellent mercy He had on that night shewed to them, even as of old to Gideon against the Midianites.

When morning came there appeared the smoking ground, empty of its crowded quarters, and sown with the corpses of those who in life had filled them. As they were on a war footing and the Kingdom had so recently been wasted, there were no spoils for the victors to enjoy; but while missing the reward they will never miss the glory due to their marvellous deed; and rewards are not ordinarily equal to deserts.

The army of the King of Prome, as soon as it learned, from some who had escaped, of Banha Lao's death, retreated in great haste, thinking they felt at their necks the Portuguese swords, which had been so quick to execute such a stupendous deed. When the fame of it spread, the King of Prome sent an envoy to Captain Salvador Ribeyro to assure him that the orders to his army were not to injure him but to fight the dead Lao for setting up, private subject as he was, to be King of Pegu; wherefore he thanked our Captain for ridding him of such an enemy, and cutting down in time the arrogance of a man hated by all for his ill-founded designs,

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

Salvador Ribeyro in his reply dissembled his knowledge that the King's mind was different from his words, and in the same manner sent his compliments to the Kings of Jangomá and Toungoo, who had sent (representatives) to visit him and congratulate him on his success. It is the world's way, the higher a man stands on the top of prosperity, to show him a happy and smiling face, and then, as soon as he falls to low estate, to forget what was, and try to increase his afflictions up to the remembrance of his past blessings, as if some people had not been deprived of them without more cause than the Divine will, from which we men cannot release even the swine, so completely does it encompass them too. As the Kingdom of Pegu remained quite uninhabited, and it was the fugitives from the rage of the tyrant that those Banhas brought with them, all the neighbouring Princes aimed, from vassals, at making themselves its King, and so becoming sovereign lords like Kings of Jangoma, Prome, Toungoo, Arracan, Ava and Siam, this last the most powerful, and he of Ava the head of the family from which sprang the Burmese Kings of Pegu, while the others maintained their positions by arms and the right of the stronger. For this reason, as soon as any of them moved to execute his purpose, the others began to enter his territory, and so each of them kept his hands off another's land, for fear of losing his own. As those of the Kingdom itself did not run that risk, they were not omitting the trial of their luck, since there is nothing new in breaking laws, and making light of the clearest dangers, to become King.

CHAPTER VI.

Of the close siege which Banha Dalá laid to the Portuguese Fort, and how they defended themselves for six months against the terrible assaults of their enemies.

We have already mentioned that the greatest lord in Pegu without the title of King was the Dalá Banha, father-in-law of the dead Banha Lao. This man, to avenge the death of his son-in-law, and also to bear off, if he could, the crown of the wasted Kingdom, got together an army of more than eight thousand fighting men, not counting other helpers who joined him every day, made up of refugees from the barbarous cruelty of their King and a number of soldiers who gathered to him from the neighbouring Kingdoms. Then having laid in the necessary munitions and supplies he sat down round the Fort of the Portugese, fully confident of putting them to the knife, or at least compelling them to leave the country and seek longer lives by taking to several ships which they had in the port. To guard against the fury of the sudden attacks which he was told it was their habit to make when hard beset, he made another fort close to ours, exceeding ours greatly in size, but not less strong; for he had a great number of men, and every day more joined him, so that it might be called a veritable town rather than a fort. There were wide

roads in it, and spacious squares, and public buildings for the residence both of Banha Dalá and the Ximins, or captains, and other officers of war and justice. It was enclosed by a massive palisade of wood, bound by two courses of timber and filled in with earth, and was so strong between the courses that it threw back the balls of the cannon which battered it, as we shall relate. At its base was a hollow that ran all the way round, with raised approaches of firm earth to the gates required for the convenience of the inhabitants; these gates being watched during the day and shut at night, and always in charge of a good and trusty guard. Food was purveyed in abundance, not only because it was their own territory, but also because the natives are content with less in the way of cooked dishes than we use in Spain or in delightful Goa. In their determination the enemy provided everything of the best that the season and the occasion allowed, as if they were gradually coming to make the place their home. It was not possible for Salvador Ribeyro to hinder the building of their fort, no further removed from his own than a musket-shot, having no more than thirty soldiers against their numbers; and the enemy, although before quartering himself he had not omitted to annoy our men with several alarms, from the time he was established made continual assaults, choosing as a rule dark nights, and thunderstorms, the less to take hurt from the balls of the carbines, and the hand-bombs, which are the sole stand-by of the Portuguese in the East. How the besieged toiled in defending themselves against the numbers of those enemies does not admit of exaggeration. It was not one fight, or one assault, as in other sieges, but almost every night when the sky was not clear they were pertinaciously engaged with such fury, and such numbers of weapons of every kind, that often they did not know how to help themselves, or to avoid being pierced by shafts aimed from afar, or wounded by spears and swords and (other mishaps in) the critical situations of close quarters. The numbers of the enemy enabled them to attack on all sides, so that the little Fort was often like to perish, had not mighty God given help to his own, and courage to the Captain, and extraordinary endurance, seeming more than human; nor was it possible for him to resist those enemies without sometimes being gashed with dangerous wounds. The enemy employed every possible artifice to inflict loss on our men. Sometimes they would first of all discharge thirteen pieces of artillery which they had in their fort, and with which they overshot ours if they took elevated aim; next followed a great noise of shouting, beating of kettledrums and other instruments of war, and rattle of musketry, and presently the enemy themselves would come with a rush under cover of strong mantles made of wood, and some with a kind of paveses, or broad shields, and passing the hollow not without many losses would begin to come up our walls, only with great trouble to be beaten back. At other times they crept up in silence, unperceived until they began at close quarters to strike at the little band of soldiers, who like lions true to their kind made butcher's meat of those who came to beard them in their den.

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

The enemy were apparently chagrined at the little they were accomplishing, and hurt by the severe losses they sustained every night they had attacked, for they chose one particularly dark and tempestuous night and delivered an assault with such silence and determination that our men did not perceive them till they had gained the walls, and some more daring had even made their way into the Fort. The Captain came to the rescue, and falling in with a large troop of the enemy began to lay about him with great energy, but found what he was not expecting; for those men devoid of clothing and armed with broad and cutting swords, and the great targets which they wear strapped to their arms, received him gaily, and when the ill success of their sword-work against the Captain's was not to their liking, closed round him, and in the scuffle he was slashed in the face from the left ear to the cheek. The Captain, feeling acutely the pain of a wound in such a part, was stung to noble rage, and wrought marvels worthy of the sublimest pen; disengaging himself from those who held him prisoner, he killed many of them and drove the rest headlong into the hollow, where singed by powder-jars and scalded with boiling oil and water they joined the more honourable company of those who had lost their lives at the wall. The soldiers, alive to the imminent danger, hurried manfully to the wall, there to meet the thronging foe and show their prowess in spite of the darkness of the night. On all sides the clamour of voices, the roll of the Fort's drums, the noise of the carbines, and the burning powder-boxes hurling through the darkness, struck awe even into minds that knew no fear. But so many were the enemy that the places left by the dead were occupied by the living, whom the blackness of the night prevented from seeing the fate of their comrades. The Fort was in danger of being lost, had not the Divine favour guarded it; for—as the enemy tells—a tall Horseman, on a horse whiter than ermine, and having round about him a brightness too dazzling to behold, smote and slew them piteously, and wrought such destruction that they desisted from the fight, leaving more than a thousand tried soldiers, of their best and bravest, lying dead around the little Fort. Some of the Portuguese were wounded, but deemed the pain of their wounds well rewarded with the glory of having received them in such an heroic action; and proved that it benefited them to account more the toil and danger of that night than in unmanly fashion the pain and suffering; while they acknowledged, above all, that their strength and valour would not have availed to save the feeble place, had not the Divine favour helped them. When the Lord keeps the city, the watchman may sleep in peace.

CHAPTER VII.

How the soldiers, despairing of the Fort, mutinied against the Captain, and eleven deserted him; and of the artifice and rare sagacity which he employed so that the rest might not forsake him.

The investment had now lasted for six months, and the besieged were suffering every imaginable hardship, want and toil. If courage to fight steel remained, their bodily strength failed them, weakened as they were by having nothing more to eat but black rice without salt. What most of all disheartened them was the small hope of succour. The Fort had been built without any orders from the Viceroy or other Minister of His Majesty, and the soldiers doubted if help would be sent from India; rather they saw ground for fear in that strong Portuguese disposition to envy and rivalry which often causes them to leave necessary and honourable undertakings unfinished because of their dislike of good done by others, whose work they will (at least) see discredited when they cannot consign it to perpetual oblivion. I write this with not a little regret. Eleven soldiers of that misguided persuasion went off in a ship, and the few who remained took a mutinous tone and endeavoured to persuade the Captain to abandon the Fort, arguing that it was not possible to defend it, that there was no hope of succour, and that he should not wish them all to die there for nothing, for to stick to the Fort under such conditions was not courage and constancy, but folly and temerity. Neither the assaults of the enemy, nor the hand-to-hand scuffle in which he had found himself with them, so distressed or alarmed the Captain as this hopelessness of his soldiers. He extolled their courage and constancy in not following the treacherous example of those who had gone, argued that the Viceroy could not but send help in an emergency of such moment, and promised that if it did not arrive by the end of eight days he would abandon the place and throw in his lot entirely with them. In this way he endeavoured to hearten them, and they seemed in some measure reassured, though not so much but he apprehended that they would depart without leave whenever it suited them. So, to settle once for all every hope that they did not place in their own strong arms and stout hearts, he quietly set fire to his ships in the night, and gave out that the enemy had burned them. If we weigh this act with the exigencies of the situation in which Salvador Ribeyro was placed, we may assuredly ascribe it to inspiration from above. Certainly no human foresight or courage conceives a deed which can neither win a name, unless to be canonised for rashness if not worse, nor redound to any advantage of the State, like Scaevola's burnt arm or Pompey's finger. The truth is that God in hidden ways infuses a Divine impulse urging men to actions for which created intelligences can give no reason. That abides only in the mind of Him who controls all things in harmony. The soldiers guessed the author of the fire, and took such a fixed aversion to the Captain that they even came to entertain thoughts of going over to the enemy. Of all the ordeals that Salvador Ribeyro

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

ever passed through, this was the worst ; not that he cared for his personal safety, but the honour and credit of Portugal were at stake, and the blot on his fair fame touched him to the quick. For his part, he left no remedy untried ; now prostrating himself at the feet of the weary soldiers, now putting to them reasons from the shop of prudence, forged in the fire of necessity. At that time he had only five Portuguese, seven country-born sons of Portuguese fathers, and six Topazes, that is, native Christians who have no Portuguese blood in them. While their rage at the burning of the ships lasted, the Captain had to watch night and day, for four days and nights, not daring to snatch an hour's sleep, and so doing set an example which, when anger had reached its limit, shame obliged them to copy. When the soldiers of his company were pacified, he saw to the watches, and what else was fit, beset as he was with the most anxious and perplexing cares. His spies brought in word that the King of Jangoma was getting together an army of men and war elephants that covered the face of the country, and would shortly descend upon the Fort. Although nothing could ruffle the calm of that valiant soul, he could not but fear for his little band, that at the sight of such a powerful army they would finally lose all heart, and despairing of other succour would go over to the enemy. He had seen that some of the country-born care but little to set their names in Glory's sacred and immortal roll. But it appears that God meant to bring that Kingdom to the knowledge of His most holy Name, for out of these and many other dangers He delivered him.

The King of Siam was aware of the King of Jangoma's preparations, and kept close watch on them. As soon as the march began he sent a strong army which seized some of Jangoma's lands and burned and killed wherever it went. This obliged Jangoma to retreat, so as not to suffer at home what he was doubtful of doing abroad. A similar fear restrained the King of Toungoo, the rightful heir of Pegu, who had resolved to take possession of what belonged to him both by proximity and inheritance. Between fear of an uncertain foe, and still more uncertain—as many thought—hope of succour from India, our Captain defended himself bravely with his eighteen men. It is the nature of true courage, to overcome the greatest difficulties, and to endure with firm constancy the most threatening dangers.

 CHAPTER VIII.

How Salvador Ribeyro de Souza was succoured, and resolved to attack the enemy's fort, and of the preparations that were made on both sides.

For eight months our soldiers had held the little Fort with admirable perseverance, and were now without hope of human aid, when there arrived at the bar a ship of Portugese merchants, and a few days afterwards seven more and five galliots. All of them brought a brave and

goodly company, including two Fathers, namely Brother Belchior da Lus of the order of Saint Dominic, and Ignacio Rebello who had been of the Society of Jesus, men of rare piety and learning, labouring with apostolic zeal in the pagan wilds of that vast East, without meeting any other Friar, or Priest, secular or regular, in the hardships they endured.

By these ships the Viceroy, Ayres de Saldanha, wrote to Filippe de Brito de Nicote, thanking him for the toil and danger which our Captain Salvador Ribeyro had undergone in the service of God and the King, and sending him, for reward, letters patent as Captain, and Conqueror of Pegu. This was because the Bishop of Cochin, apparently wrongly informed, had written to the Viceroy of the illustrious victories and heroic deeds of Salvador Ribeyro in Pegu, ascribing them all to Filippe de Brito.

When Salvador Ribeyro had read the papers to know what were the Viceroy's orders, he sent them to Filippe de Brito, who was all the time in Bengal, in the service of the Moorish King of Arracan, far removed from the trials and dangers that Souza had passed through. Ulysses thus enjoys the prizes won by Ajax. The renown which God had given the little band of soldiers in Syriam attracted crowds from all quarters, till the number reached eight hundred Portuguese carbines not in the pay or under the orders of any King's Minister. Among these one Sebastiao Serrao, a Captain, and master of a galliot, thought that he would win himself a name by some notable deed, and bombarded the enemy's fort with the guns of his galliot, but with no result, for his furious cannonade had no more effect on the walls than stones thrown by the tender arms of harmless boys. Thereupon without consulting Salvador Ribeyro he attacked the enemy, but as he was not the man through whom God meant to show forth the glory of His salvation and to honour the Portuguese in Pegu, he withdrew in great disorder with two soldiers killed and five badly wounded, to Salvador Ribeyro's great regret and plainly shown disgust.

As the port to which the ships had come was that from which the neighbouring Kingdoms drew their supplies of clothing, salt, and other wares from India and the Coromandel coast, and the people knew that the country was safe under Portuguese rule, they flocked to do their trade, to the great honour of Salvador Ribeyro and advancement of the credit of Portugal. Nor was it only the traders who rejoiced in their freedom under a rule so auspiciously begun, but the Ximin Barragao, a well-known commander, came over to Salvador Ribeyro de Souza with nearly twenty-five of his kinsmen, and others followed their example to the number of perhaps a thousand and five hundred fighting men.

It was the end of summer when that imposing assemblage met together. Captain Ribeyro foresaw that if the enemy stayed on in his fort so near to ours he would renew the war as before when the winter set in. To avoid this almost certain danger he called together the captains

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

of the ships and the other leading men, and showed them how the division of the Portuguese forces would place the Fort in jeopardy, should the Banha Dala remain lodged where he was: He therefore begged them to help him to finish the work, and in so doing, over and above the great service to God and their lord the King, win the honour which had brought together such a noble and illustrious gathering in that place. They agreed, and pledged themselves to obey whatever orders he might see fit to give. Highly pleased with this response, he began to put his plan into execution. He got in order plenty of ladders and broad and strong planks, to afford the soldiers a way across the hollow to the enemy's fort, and prepared a great quantity of powder-jars in cases, for the orderlies to carry among those who had to throw them. He also gave orders to rough-hew several thick logs, what the ancients called *arietes*, and with rams, to break in the gates when the time came. Although he arranged every detail with the greatest secrecy, the news leaked through to the enemy by a man of the King of Arracan's following, a Mogul by race, and the Banha Dala, far from losing heart, set about defending himself in no unskilled fashion; for experience teaches. He detained the runaway who had brought him the information, and sent away all the women and useless people, leaving only the soldiers and those required for their service. As the powder-jars were what caused him most damage, he set up a line of posts inside his wall, standing higher than the wall itself, and stretched strong nets from them to the wall, like the roof of a house, so that the jars might rebound entire and burst among our soldiers who had thrown them, and so burn them with their own fire.

Our Captain divided his forces into three parts. The first and main division was to deliver the assault, and he accompanied it in person. It was composed of five hundred Portuguese soldiers, with scaling ladders and full equipment, and was in charge of Joao Pereyra. The second he entrusted to Jorge de Bayrros de Azevedo, an elderly nobleman who had been despatched with the squadron from Coromandel. With him as equal and companion went Sebastiao Serrao de Anaya. They took a hundred and fifty Portuguese, with orders to place themselves behind some ruined pagodas, or pagan temples, which stood in front of the main gate of the enemy's fort, and prevent any sally being made with the object of hindering the assault by taking our vanguard in flank. The third division was given to Simao Barbosa Aranha, and consisted of a hundred and fifty Portuguese, like the second, together with a thousand natives of the country with their Ximins, or Captains. Its orders were to show itself to the enemy from the tidal creek which, as we said in Chapter V ran close by our Fort, and make a show of attacking, with the object of drawing off part of his forces in the belief that he was being engaged on more sides than one.

CHAPTER IX.

How the Portuguese took the enemy's fort by force of arms and destroyed it utterly.

Such was the plan of attack. When our Captain's longed-for day arrived, the divisions marched out by different gates before daybreak, and began to move each to its appointed position. As the other two had farther to go, Joao Pereyra's had to be halted to give them time to get forward. It was then quite near the enemy's fort, and as soon as Salvador Ribeyro judged that the moment had arrived he gave Captain Pereyra the order to move. The men obeyed with alacrity, swarmed across the gully, and planted the scaling-ladders, up which amid clouds of smoke, fire, stones and missiles of every kind climbed a number of officers and men who in this assault covered themselves with glory, one of the foremost being Captain Joao Pereyra. As the enemy was forewarned, and the fire-jars could not penetrate the nets, our side began to suffer heavily, among the killed being Captain Pereyra, who won an undying name fighting valiantly like a true Fidalgo. The loss of such a leader, and the fierce resistance of the adversary, caused many of the Portuguese to retreat in such disorder that some of them did not stop until they reached our Fort, where they gave out that the day was lost and Salvador Ribeyro killed. He had marked out for himself the role of commander rather than of soldier on that day, but when he saw his men disorganised he was up a ladder in a trice, ordered those still there to cut the nets with their swords and let the jars through, shouted to cheer on-comers and shame the climbers down in a voice that acted like Honour's spur, and then in sight of all—for day had now dawned—jumped down inside the fort among the thickest of the enemy, like Alexandar at Oxidraca (18) to the envy and awe of his men and the terror of the barbarian foe.

The Captain's attire was suited to the part he played that day as Captain-General of such a great and distinguished host. He was in Spanish full dress, wearing on his chest and shoulders a corslet of tapir skin; girt on his side a broad scimitar with massive gold embellishings, hung in a sling of gold-coloured taffeta; round his right arm a green ribband, the emblem of Hope, which blew out in the breeze like a beautiful wing; on his head a glittering morrion adorned with handsome plumes; a shield of fine steel bound on his arms; another broad sword carried by a page; brocade coat and breeches, yellow stockings and garter and white shoes; and with his youth, his chestnut beard, ruddy complexion and well-proportioned figure, he drew after him all eyes, both his own side's and the enemy's. The first with him in the assault was Francisco Ribeyro de Antas, then Andre Pinheyro Ferreyra, a native of Santarem, Antonio Soares and Joao da Vega, who fought so manfully and

(18) Alexander the Great and three companions jumped from the wall into a hostile town below the confluence of the Chenab and the Jhelum (4th century B.C.)

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

made such havoc of the enemy that by the hand-guns and powder-jars of those on the wall, they gained the gate, broke it down in spite of all opposition, and called to their friends outside to enter by the way that they had cleared.

Simao Barbosa Aranha, who had been allotted the river division, lacked patience to hold back, and attacked the walls, and full fighting like a lion. How it befell was in this wise. The enemy, finding themselves attacked on all sides, feared that they would end by being shut in and made mincemeat of by the furious Portuguese, but seeing natives of the country taking part in Barbosa's assault, thought they would get out more easily on that side, and by sheer irresistible force of numbers cleared themselves a way. Banha Dala had seen the division which had taken post at the pagodas, from the safe shelter of which they need not move to kill fugitives. His chief consideration, however, was that that way was more exposed, whereas the river road afforded more cover to escape in safety. He accordingly gave his whole force the word to get away, just when Barbosa, with a soldier's valour rather than a commander's luck, was trying to force the wall, and the Banha, finding our forces divided, made his escape, and Barbosa lost his life, for all his marvellous feats of arms. And if the enemy, who stopped three leagues from there, and duly made several counterattacks, had more resolution, the Portuguese would have paid for it with their Commander's life, and the natives—his control being gone—with the calamities of which disorder is in India the fruitful cause. The Portuguese were for the most part traders, who had endangered themselves only out of courtesy, and when they found the enemy quite used to giving and receiving wounds they did not show a proper degree of cohesion and discipline. It was therefore by a very near touch that the success of that day was achieved, and more by the valour of Salvador Ribeyro and the few soldiers who jumped into the fort with him, than by any steadiness and hard work on the part of such a brilliant array of officers and soldiers. Only four men and two officers were killed, and several wounded. It was not possible for me to obtain their names, but the glory of Joao Pereyra and Simao Barbosa Aranha will justly stand consecrated to immortality.

Salvador Ribeyro called in his men, together with five pieces of artillery that were in the fort, with the object of offering battle to the enemy in the open, but found himself with such a small company that it seemed worse than temerity to follow up a Prince who had withdrawn at his leisure with his force whole and entire. He therefore contented himself with the mercy that God had shewn him, and sent Captain Jorge de Bayrros with some soldiers back to our Fort to secure it and maintain order, while he himself took the greater part, and in order to prevent the enemy reoccupying a stronghold on which they had spent so much, if they should find it left standing empty and intact, he set fire to it and burned all the quarters, which were made of wood.

The Captain found himself much the worse for his leap, the sheer height of which, weighted as he was with his corslet of proof and morrion already described, left him extremely weak and shaken. That evening he insistently begged several officers and men, in view of his own disposition, to demolish the walls of the enemy's fort, but as the Banha Dala was not far off they did not consider the proposal safe enough to put into execution, and those who set out came back again with little hardihood and not much honour.

The Captain was keenly sensible of the little that had been accomplished. Next day he rallied his strength, and by making the captains see how little fruit would result from the toil and danger they had undergone to dislodge the enemy, if they left his fort in such state as almost to invite him to return to it, obliged them to finish the work. He set out with such as would accompany him, and fearful enough though some of them were they demolished the fortress from its foundations, levelled it completely, and filled up the wide and deep hollows with the materials of its walls. He thus deprived the enemy of any hope they might have of re-occupying it, and relieved our side of the standing menace of what showed so much superior to their powers. If the bodily powers fail, those of the soul remain, able by themselves to translate its native nobility into deeds.

CHAPTER X.

Of the equipment, and the engines, with which Banha Dalá came to fight against our Fort, and how by a plain miracle he withdrew without again daring to attack the Portuguese.

When the Portuguese traders had concluded their traffic of barter with merchants of Toungoo, Prome and the surrounding country, who were now beginning to resort to Syriam, as formerly to its realm, the recently opulent Kingdom of Pegu, the time came for them to return, and Captain Salvador Ribeyro de Souza was left in the Fort with two hundred Portuguese soldiers and the Ximim Barragao and his native following. Banha Dalá, from the position he had taken up three leagues from our Fort, kept threatening and annoying our men with frequent incursions. Unable to lay aside his pretensions to the Kingdom he coveted, as soon as the winter closed in and the Portuguese ships had all gone, he reconstituted his forces with a fresh supply of fighting men and auxiliaries, and resolved to try his luck and if possible drive our people out of the country, and so, as he hoped, conclude his business. As he had experience of the vigour and determination of our Captain and his men in fair fight, he resorted to inventions and military devices for the conquest he could not achieve by force. To this end he constructed many huge cars of three and four storeys, supported on strongest axles with enormous wheels, to be pushed along, or pulled with ropes, by a great number of men protected by long thick shields to enable them to

lay the machine close alongside our Fort wall in spite of carbines and burning powder-jars. These tall towers were made of very dry timber, and stuffed with pitch, tar, and powder, so to blaze freely when set on fire close to the walls of the Portuguese Fort, which likewise were of wood. Machines of this kind were employed by the King of Calicut against the Portuguese Marté Durate Pacheco Pereyra (19). Moreover the Banha provided many men with mattocks, baskets, shovels and other instruments to fill in the hollow. His Ximims and soldiers, furnished with every kind of weapon, and the fire contrivances, imagined that they would be victorious.

The Portuguese had not over much of munitions, and were short of powder-jars, the chief, so that they were obliged to husband their powder. The Captain gave orders not to fire their carbines till the enemy should have come close up, not only to avoid wasting their shots but also to use them with greater effect. On the top of the wall he prepared many fires, with cauldrons, to throw boiling oil and water down on the naked enemy, besides piles of stones and all kinds of offensive missiles. He exhorted his men to victory or a glorious death with words of cheer and confidence; reminded them that with only nineteen comrades he had killed countless numbers when resisting that very enemy, that the cause was God's as before and the Portuguese were now so many apart from the natives, and declared that he expected to do to Banha Dalá what he had done to Banha Lao, a younger and not less proud and arrogant man. Great was the impression of their Captain's words on the minds of his men, among whom were Custodio Martins, Simao Ruis, André Pinheyro, Gaspar Tavares, Belchior de Oliveyra, Francisco Dias, and Valentim Simoes, owner and captain of a junk, who all had been with Salvador Ribeyro in the dangers past, and for those to come awaited the enemy with good courage.

I know not what it was in such brave men, that when they saw all those preparations, all those proud engines, and so many enemy soldiers and captains whose brothers, sons, and fathers they had slain, they did not fear the cruel death which in so many kinds threatened them. Shut up in a frail place of wood, the fewer in number the greater in valour and resolution, they encouraged one another and made little of the present danger. The sun would be set, when five hundred enemy cavalry, who had already made several sallies, mustered in brave array before the Fort; and in the growing darkness the enemy's army, containing eight thousand paid soldiers and many Ximims and gentlemen adventurers, discovered itself with a din and hubbub of shouts, war-cries, and martial instruments of every kind. Surrounding our Fort on all sides, they opened with an impetuous onset, hurling spears, firing their arquebuses furiously, and throwing frightful bombs of fire from so near that many of the throwers came into the pits, where some stayed for ever, boiled in

(19) Cochin and Calicut were the first Portuguese trading stations in India (1501). Marté Durate Pacheco Pereyra defended Cochin in 1504.

the oil and water thrown on them from the top. The Ximim Barragao's quarters adjoined the Fort on the south, on the river bank, and the Captain took particular care to support him with Portuguese soldiers, and often with his own presence. The Banha knew that that side was less fortified, and resolved to make his entry there, and provided light boats filled with soldiers. When those on land closed in, those on sea did the same; and as they were many, inflamed with lively hatred and lust of revenge, fought so stubbornly that twice they entered the quarters, and twice were gallantly driven back. Their hardiwood did not cost them so little but that Barragao sent Salvador Ribeyro some of their heads as a present, when he came round with fifty picked soldiers with whom he was going to all parts to reinforce where he saw it was necessary; and as Ximim Barragao's station was causing him anxiety he had several big trenches dug, and piles driven in, to hinder the cars from passing. The earth burned with fire, the heavens rang with uproar, and the moon was darkened with the smoke of carbines, the enemy's bombs, and the cannon discharged from our Fort against the proud machines, which held on their way, nor could the raging shots avail to stay their approach.

Salvador Ribeyro was in great fear that if the cars should once reach the wall our whole Fort would undoubtedly be consumed, and he resolved to sally out and set fire to them before the Banha Dalá accomplished what he purposed with them. It seemed to him that the bombardiers unnerved by the danger, were not making hits, big though the marks were, and to leave no test untried, while the soldiers who were to go out with him were getting ready, he began pointing one piece to be fired at the dreaded cars. Such, however, was their strength that they took little damage from the shots they received, except one that was hit in the axle or wheel, and stopped, though this was not known till next day, as the night covered it.

Our side was in very truth in notable peril, but as the cause they defended was God's, His help could not fail them. As the fiery column guided the people of Israel, and killed the saucy soldiers sent by King Ahab to take the holy Prophet Elias, even so near midnight, when the enemy's attack was hottest and our men stood bravely to their ramparts, the Divine Majesty caused to appear above the Fort a wheel of fire equal to the circuit of the walls. Little by little it rose, growing ever larger, and then settled down with bright and burning flames upon the machines and the encampment of the enemy, to their great fear, and great comfort of our men, who seeing in the marvel the mercy of God's pitiful hand, gave thanks and discharged their carbines and cannon with loud cries of joy and gladness. The assailants, interpreting the sign for a sure and veritable token of their own destruction, in the greatest terror abandoned their proud machines and their encampment with all their munitions, which our soldiers burned. The Banha, in despair of attaining to royal dignity and fear of losing his own lordship, withdrew dejected to places of safety, where if with less aggressiveness and arrogance, with all the

greater hatred and rage, he plotted how to check the current of so many victories. He could not bear to see the lands of his ancestors pass into the hands of the man who had killed his son-in-law Banha Lao and so many of his subjects and countrymen and also seemed destined to oppose his fortune and work for his final ruin. While these and other painful considerations impelled him to seek revenge and satisfaction for his losses and disgrace, he yet held it madness to attack a man for whom the very Heavens fought.

CHAPTER XI.

How ships came to Syriam with letters from the King of Portugal and the Viceroy of India, whom Salvador Ribeyro informed of the miraculous victories which God had given him, and of the state of that kingdom.

In May, the season in which ships can sail from India to Pegu several ships arrived at the port of Syriam, and brought letters in which the Viceroy Ayres de Saldanha wrote to Philippe de Brito de Nicote as if it were he who had passed through the toils and dangers which we have narrated. With the letters of the Viceroy the Captain found one from His Majesty, which said: "The Bishop of Cochin wrote to me that there was one Philippe de Brito there, in a certain Fort of Pegu, with sixty Portuguese; give our thanks to him, and to Father such-an-one" and so on. Now both these men were in Bengal, and neither the one nor the other had taken part in any of the things here related, except Brito in the matter we mentioned in the third chapter. This can be seen, and we have seen it confirmed by notes signed by Philippe de Brito himself and a despatch from the Viceroy, all of which Salvador Ribeyro has produced in the supreme Council residing in this Court with His Majesty our lord King. To learn the orders of His Majesty and the Viceroy concerning the conduct of affairs in Pegu, where he was in the position of Commander preserved and maintained by his own strong arm and stout heart and those of the soldiers who served under him without orders or aid of any King's Minister, he opened the letters. Though he might well have been disgusted at seeing his hard-won honour given to another, he did not relax for a moment; on the contrary, perceiving that His Majesty was aware of what had been done, and accepted it as a great service, he made up his mind to carry the conquest through, in the belief that when the truth of his services was known they would receive the reward which their importance claimed and such a Sovereign Monarch was able and bound to give. In this opinion and confidence, natural to a generous mind, he sent on the letters to Philippe de Brito, who was all this time in the Kingdom of Arracan performing his duties as Changa in the house of that infidel King.

To acquaint the Viceroy with all certainty of what was being done, and to shield his personal claims from partisan calumny, he resolved to write to him, and did so, setting forth the favours he had received from God, the victories he had gained, the magnificence, wealth, and abundance of the Kingdom, and what things were requisite to bring to the

desired end the great and marvellous beginnings by which God had shown His will to plant His Holy Faith in those parts. He asked the Viceroy for soldiers, pieces of artillery, masons and other craftsmen, and tools for extracting stone to build a Fort that should be a perpetual yoke on the natives and safeguard of the Portuguese. Withal he laid before him the much he had done to bring over that Kingdom to His Majesty, and begged him not to allow the honour and the emoluments for which Salvador Ribeyro had shed his blood to be given to a man so little concerned in the toils and dangers undergone.

That the truth might in no wise be hidden, many if not most of the Captains who had been at the taking of Banha Dalá's stronghold were residents of Goa, and saw and knew that Filippe de Brito was living in Arracan while Salvador Ribeyro was slaying captains and overcoming armies. The meed of honourable deeds incites and animates not only him who receives it, but many more besides, to scorn death itself in undertaking others more illustrious and carrying them to a glorious end.

CHAPTER XII.

How King Massinga was persuaded by Banha Dalá to make himself King of Pegu, and how Salvador Ribeyro went out to meet him and slew him and defeated his powerful Armada.

Great was Baha Dala's longing to be King of Pegu, and when he saw that the very Heavens countered him, he set about trying to gain by another's hand what his own could not reach. Knowing the smallness of our garrison—for he had spies in the Fort—he felt certain that if the natives were to see a Prince of the blood of their ancient kings they would gather to him, and those who had joined the Portuguese would desert them. There was King Massinga, of the royal line of Pegu, ruling in the Camelao country, and to him he wrote of the state of the ruined kingdom, which he might easily take if only he would come and rid it of the Portuguese usurpers; for our forces, he said, were small; the natives must gladly obey one who was as their natural lord; and he offered his own, his relatives' and his friends' support.

King Massinga thought the opportunity too good to be missed, and promptly came across with his family and household, as if all were already over, to take possession of what cost him his life. To be ready, however, against any accident, he brought a hundred and fifty ships of all kinds with—so rumour had it—ten thousand fighting men apart from attendants and women.

In that Kingdom, not more than a league from our Fort, stood the Pagoda or Temple which the Orientals held in great veneration and visited from far distant lands to pay their vows. To inaugurate the new Kingdom with the favour of Heaven, Massinga brought in his fleet to this Pagoda, and there he and his people engaged in ceremonies and offerings. Salvador Ribeyro was aware of his arrival, and its purpose, and decided

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

that the advantage lay in being beforehand with the enemy's forces and giving them battle on the water, rather than in waiting to be shut up in Fort, where he would be more at the mercy of artillery and would put his native friends to the choice of starving or going over to the adversary. On considering the situation of the enemy's fleet, he observed that it was behind a point on the river, and that by going close inshore with muffled oars our men could fall upon them without being seen until their hands were felt. He accordingly left in the Fort a hundred Portuguese soldiers whom he could thoroughly trust, to resist any new move on the part of Banha Dalá who still dogged him, and himself chose fifteen boats, in which he put a hundred and fifty soldiers provided with good carbines and all munitions.

His plans made and orders given, he set out one night and reached the enemy's fleet just at the hour of morning when most of them and their leader were at the Temple, occupied with their rites and celebrations. King Massinga, by virtue of his authority, had personally begun the offerings and devotions, and was so in disgrace with Fortune that he was back in his galley and had to fight with the mere remnant of his force. He left his life in the hands of the lucky Captain Salvador Ribeyro, and so ended at once his own Kingdom and his pretensions to another's.

Our men attacked with great noise of carbines and artillery, but hardly had need of their wonted dash on occasions of the kind, for the unexpected alarm threw the enemy in a panic and they fled after very little resistance. In the victor's hands were left that multitude of nearly empty boats and seven pieces of artillery. Those who had landed, not feeling safe where they were, left their devotions and took to the jungle, trusting to its dense thickets to escape with their lives.

When Banha Dala heard of our victory, and was certified of the fate of the ambitious Prince, he made off with all haste to his own domain of Dala. Even there Salvador Ribeyro would not leave him alone, but beset him hard with chosen Ximims on whom he bestowed many favours and honours, obliging him to leave his own land and take refuge in the Kingdom of Prome to escape the luck of our Captain. He returned to the Fort in the joy of victory, and made proclamation that he would deal kindly and fairly with all who would render obedience to him, assuring them of his clemency, and his love of their rich and delightful country, where they would be treated with Portuguese sympathy and good faith instead of with the tyranny and injustice to which they had been used under their Kings, lamentable witnesses of which were the deserted town and wasted fields of Pegu, which it was his aim to restore to their former life, beauty and dignity. This became public among the natives, and won them over so effectually that in a few days fifteen Banhas, or titular lords as we have said, and about two hundred Ximims or Captains, gave in their allegiance, besides the common people in such numbers that the town had sixteen thousand inhabitants, who began to settle around our Fort. Such is the power of mildness and justice to win the love and loyalty of the most alien minds.

CHAPTER XIII.

How the natives made Salvador Ribeyro de Souza King of Pegu, and of the gifts sent to him by the King of Toungoo and other Kings, who approved his election through their ambassadors.

If we study Divine and human histories, we shall find that never any great Empire came to ruin or powerful kingdom to destruction, but our Lord God had long before revealed it with signs and wonders in heaven and clear portents on the earth. This is well known to those versed in the prophecies of Holy Writ concerning the fall of the proud Empires of Assyria, Persia, Greece and Rome. The coming fate of Israel and Judah, with their cities Samaria and Jerusalem, was bewailed by many Prophets, and wept over by the Son of God Himself. The Sibylline Books foretold the destruction of Rome's Empire. In our Spain, and City of Toledo, the spell-bound Palace (20) and many other utterances of men renowned for sanctity and learning, clearly prognosticated the coming of the Moors, the death of the Gothic nobility, and the wretched captivity of the Spaniards. For Portugal the books are full—and with great grief we saw it—of heavenly portents, and the marvellous Comet foreshadowed its disaster (21), appearing so many days before to warn the unwilling King and his, in this respect, too obedient people. And if the celestial prodigies, which could not be wanting on the eve of the destruction of Pegu, had not come to our notice, there assuredly were prophecies of which the Talapoins, as they call their priests, give signal testimony. They affirm that in their books—which they call *Olas*—it had for many years been written that the Kingdom should be laid waste and the rule would pass to strangers with white faces and teeth and cropped hair. Preaching this at the pagodas, they enjoined loyalty and good faith to the Portuguese who came with Fortune's credentials to be their rulers.

The cruel King of Pegu was all this time in the charge of his brother-in-law, the King of Toungoo. His pride and arrogance could not dispense with the deference shown him in his more flourishing days, and he would have his brother-in-law and all the grandees make him the reverence and obeisance which they call *zumbaya*, as they had been wont in the time of his greatness. The brother-in-law rebelled at humbling and prostrating himself to the earth before a man who had lost everything, and by his abominable and beastly ferocity was unworthy of the sun's light that shines equally on all living, and he had him beaten to death. So perished shamefully the author of the destruction of one of the world's rich and powerful Kingdoms.

(20) The "Palace" is, I suppose, the Alcazar of Toledo (the Gothic capital of Spain), occupied by the Moors in the 8th century. It was turned into a royal palace in 1200.

(21) If a comet appeared in 1578, the allusion is probably to Dom Sebastian, the fanatic and celibate King of Portugal, who was defeated and killed in that year in a battle at Al Kasr al Kebir against the Sultan of Morocco. The crown was then united with that of Spain for three reigns.

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

When the Banhas and Ximims of Pegu heard of the death of their cruel King, and saw the death of Massinga, the great victories which Salvador Ribeyro de Souza had won set them thinking. Moved by these and by the hint of the Talapoin's prophecy, but even more attracted by his habitual justice and rectitude towards all, they thought that with him for their King and Lord they would live shielded and secure.

In this opinion they were confirmed by the charm of his grave courtesy, and last but not least the favour they ensured themselves with the Portuguese, whose friendship had been the cause of riches and abundance to all in the East who had the prudence to turn it to account. They imparted this consideration—as could be understood later—to the King of Toungoo, the rightful successor to Pegu by his marriage with the sister of the King just dead. He not only approved the reasoning of the lords and captains, but gave up his own rights and made them over to our Captain, and sent a Steward, a chief person in his Kingdom, with five hundred horses and an *ola* of gold, with which it is their custom to crown their Kings, being a leaf similar to the plate of gold that hung from the mitre upon the forehead of the Hebrew High Priest. Inscribed upon it was the name KING MASSINGA, so that in crowning our Captain with it they would give him the name of the Prince he had killed, as if saying that kingly rank was the fit and right due of him who in open and fair fight had conquered and slain Kings and the armies of Kings, and that he should be called and known, to his lasting fame, by the name which like a rich trophy his admirable valour and resolution had won.

When the Dechani—so the Steward is called—of Toungoo arrived, all the Banhas and Ximins assembled themselves together, and by public and solemn act, to the sound of drums and all the instruments used in their country, placed the *Ola* on his head, and so was our Salvador Ribeyro de Souza acclaimed KING MASSINGA OF PEGU, while all those present prostrated themselves to the ground, and the great ones severally, each one for himself, did the *zumbaya* due to a King, as they do homage in our Spain. From that time onwards he wore the white hat with gold lace which only Kings may wear, and was treated, obeyed and honoured as rightful King of Pegu, with great satisfaction not only of the Peguans but also of the neighbouring Kings, even those who had claims to that Kingdom, for the King of Toungoo sent an envoy with a present of a golden holder, what the natives call *batega*, in which Oriental Kings are accustomed to carry the betel. This is a kind of ivy leaf, the juice of which, when mixed warm with a fruit called *areca* tasting like cypress-apple, and tempered with a little oyster lime pounded with rose-water, is of great efficacy to fortify the stomach and allay wind.

The King of Ava sent him his congratulations and three pieces of orange-coloured damask, the King of Jangomá six beautiful golden roses, and the King of Prome a dish of a certain ragout which they call *lapara*, proper to Kings, Salvador Ribeyro replied to each one as was fitting,

and offered his friendship and love, as if changed into another man. In such manner is he honoured whom the King of Kings, our sovereign Lord God, is pleased to exalt.

LAST CHAPTER

How Salvador Ribeyro de Souza built a new Fort, and how Filippe de Brito de Nicote came to Syriam and King Massinga, with admirable loyalty, made over to him the Fort and the Kingdom in obedience to the order of the Viceroy of India.

The affairs of Pegu were brought, as we said, to tranquillity and rest, and Salvador Ribeyro de Souza saw himself respected and obeyed by the natives. But as he was among aliens, in a strange land, and his power newly acquired by arms, he thought it necessary to entrench himself in such manner that if the Peguans, stirred up or aided by their neighbours, should attempt a rebellion, he might suppress them by force even as he had in the beginning drawn them by the rectitude and mildness which evidently still pleased them well. To carry out this design he marked a hillock which overlooked the wide and spacious plain on the bank of the river, and having near it a well with a plentiful flow of good water. There he commenced the foundations of a good Fort, which he built almost in the form of a square, with a bastion at each corner. The north-east bastion he called S. Filippe, the north-west Our Lady of Victory, the south-east Santiago, and that on the south-west Santa Cruz. From one bastion to another is fifteen fathoms, but he extended the wall on the west side to twenty-one fathoms so as to take in the hillock and well already mentioned. There he made a double bastion, which as it stands higher and is constructed bigger, appears as the citadel of that Fort. Towards the river, that is the east, he made a gate, and another on the south; and close to the great bastion, in the western face, a small gate, protected by its own bastion and giving passage to the town built at its foot, which already, as we have said, had sixteen thousand inhabitants. The walls of the bastions are eleven spans thick, filled in with earth up to the artillery platform with its necessary portholes. The walls elsewhere are made of stone nine spans in thickness up to a height of one fathom, and rise eight fathoms more with a good and strong curtain of mud seven spans thick, ending in a gangway of four and a parapet of three spans thickness, and for greater strength each course of mud is laid two inches narrower. What makes it exceedingly pleasant and agreeable is its closeness to the river, the waves of which break against our two bastions of Santa Cruz and S. Filippe, and between them the ship that come to that harbour can discharge and take in cargo in perfect safety under the protection of the artillery. On the south and west it is girt with a line of tall trees of cool shade, yielding delicious fruits; to the east and north lies an extensive plain, whose teeming crops feed not only those who dwell on it, but regions far removed, so that it may be called one of the world's wealthy

A BRIEF ACCOUNT OF THE KINGDOM OF PEGU.

and delightful places. Its strength is completed by a deep and wide hollow into which the tide enters, so that nothing might be left which could possibly be desired. As the great bastion stands on higher ground it was not possible to bring the water round it; but the result is a Fort which, as it cannot be commanded by hostile artillery, can with ease not only defend itself but also take the offensive against any enemy, were they even the inventive Italians or impetuous Janissaries (22). Every day five thousand men went about the building of it, apart from the fighting men who worked cheerfully in the mornings and evenings assisted by the Captain. The foundations were cleared, and the bastions shaping well, when there arrived in the harbour three galliots sent by the Viceroy Ayres de Saldanha with a hundred soldiers and their officers, masons, quarriers and the rest whom Salvador Ribeyro had asked for in his letter. This was the first and the last investment made by His Majesty in that Kingdom while Ribeyro kept it quiet and at peace. The Viceroy continued to Philippe de Brito de Nicote the honours and rewards which he had already bestowed on him in sending him letter patent as full Captain, and Conquistador of Pegu. Those letters Salvador Ribeyro had sent on to him where he was living in Arracan in his office of Changá, as we said. To Salvador Ribeyro the Viceroy wrote merely a letter of thanks addressed as follows: "To Salvador Ribeyro de Souza who, using the patent long before granted him by the Viceroy, arrived at Syriam with nearly twenty soldiers in a ship with a ship's lantern and a full captain's banner, and commanded the Fort of Syriam in the absence of Philippe de Brito De Nicote." This was one of the greatest tests of loyalty and magnanimity that have been known in many ages; for if it is nothing new, in the Portuguese nation, to repay services of the most abounding merit with ingratitude, it was something new, and a limit never before seen, in the face of so many defeated armies whose chief Captains Salvador Ribeyro had killed with his own hands, to honour Philippe de Brito for the blood shed by Ribeyro; Philippe de Brito, who was living in safety and luxury more than two hundred leagues away and never entered Pegu all the time of the war, and now that it was at peace was to come and enjoy the profit and the honour that belonged to another. Yet this ingratitude, not to say affront, did not affect King Massinga's conduct when Philippe de Brito arrived. He went out to receive him, placed the insignia on his head, and made over to him the Fort and the Kingdom of which he was in peaceable possession without any Government aid, saying that he was a subject of His Majesty the King of Portugal, and therefore disclaimed all that he had won and handed it over quietly and obediently to the man whom his Viceroy ordered him, albeit against reason and justice. This modesty was not at all to the liking of the Portuguese soldiers and the Banhas and Ximins. They urged King Massinga to hold to the title and the territory he had so honourably and bravely acquired in the face of

(22) The Janissaries were the first regular standing army of the Turks, formed in the 14th century and not finally dissolved till 1826. They were noted for the wild impetuosity of their attack.

extraordinary perils, and would not let him leave off the white hat which only the king may wear, and still followed him about and did service to him as such. To placate their angry mood Salvador Ribeyro had to keep at home as much as possible and only went out on express business, when he freed himself little by little from the crowds who pressed round, asking them to obey and honour the Captain appointed by their lord the King, from whom he trusted to bring to all of them complete satisfaction for what they had done. As the natives look up to their Kings almost as divine, and called Salvador Ribeyro Quiay Massinga, which means god of the country, they conformed to his words as they would to oracles. Meantime the season for going to India was at hand, and just then news came that Banca, a notorious leader, had established himself in Pegu, the deserted capital of its erstwhile mighty Kings, with a kind of gang of highway robbers, and was hindering the passage of merchandise to our City. To leave all quiet and in order to Filippe de Brito, Salvador Ribeyro wanted to suppress and stamp out the first kindlings of this trouble, and accordingly took two hundred Portuguese and several Ximins in ships and set out to find Banca. As the gang had no great support, and its leader and most of his men had good cause to remember the name of King Massinga, they made little difficulty of abandoning the city in their fright; not so easily, however, but our men managed to bring away several boat loads of their heads to show for fruit of the expedition.

Successful as usual, Salvador Ribeyro returned to the Fort, and passed the time there until the Monsoon, as they call the season for sailing to India. When the Banhas and Ximins knew that he was going, they set themselves resolutely to dissuade him with reasons so enforced, and tears so heart-wrung, that no ordinary talent could write the one or portray the other, to show how he was entreated by the love which those people had conceived for the winning qualities of the man they had chosen for their ruler. Salvador Ribeyro broke through all who would hinder him, and with a nobility that out-tops exaggeration left in the possession of another the Kingdom he had soaked with his blood and in which God had raised him to the height of human felicity, and in March of year one thousand six hundred and three spread wide sails to winds of Hope, which most often consumes itself with that which feeds it.

THE END

The Life of U Ponnya.

BY SAYA OH.*

စလေဆရာကြီး ဦးပုညအထူပွတ္တိ။

ဇေယတုသဗ္ဗမင်္ဂလံ။

စလေဆရာကြီးဦးပုညသည်။ စလေမြို့၌ ဘွားရာဇာတိဖြစ်သည်နှင့်အညီ။

ဆရာကြီးဦးပုည၏ ဘဝသည်။ ရွှေဘိုမင်းတရားကြီး၏ မင်္ဂလာအိမ်တော်၌ အကြီးတော်အဖြစ် နှင့်ရေးသားထမ်းရွက်လေ့ရှိသည်။ အမည် ဦးမြတ်စံဟုတွင်၏။ ဦးပုည၏မိခင်မှာ။ စလေပုခန်းငယ် မြို့သူ ကြီး၏သမီး မလှရင်ဟု အမည်တွင်လေသည်။

သက္ကရာဇ် (၁၁၇၄) ခုနှစ်။ ကဆုန်လဆန်း (၁၃) ရက် ကြာသပတေးနေ့တွင်။ စလေ ဆရာ ကြီး-ဦးပုညကို ဘွားမြင်လေသည်။ ၎င်းဘွားမြင်သောနေ့၌။ ပညာတတ်။ ဗေဒင်တတ်။ ကြက်သွန်ခင်း ဒုတိယဆရာတော်နှင့်။ မိုးရွေးဆရာတော်တို့။ ရွှေစက်တော်ကအပြန်တွင် အိမ်သို့ကြွဝင်လာသည်နှင့် ဆုံမိ ၍။ မောင်မြတ်စံ၏သားသည်။ ပညာရှိဖြစ်လိမ့်မည်။ လောကီရေးတွင် ကျော်စောထင်ရှားလိမ့်မည်။ နိဗ္ဗာန် တို့သည် နိဂြိုဟ်ပေါ်၌ စီး၍နေကြသောကြောင့်။ ဥပပစ္ဆေဒကတိများမကင်းတတ်လေသည်ဟု ဟောပြ တော်မူ၍။ အတန်ကြာလျှင်ကွသွားတော်မူကြလေ၏။ ခုနစ်လသားအရွယ်သို့ရောက်သောအခါ။ စလေမြို့ က။ အမရပူရမြို့။ သာယာဝတီမင်းအိမ်တော်သို့ အဘဦးမြတ်စံနှင့်။ အမိမလှရင်တို့သည် အခစားလာ ရောက်ကြသောအခါ ပါလာသည်နှင့်။ စည်တော်ရုံတွင် ခဏကြည့်ရှုနေကြရာ။ စည်ကြီးစည်ငယ်များကို ပုတ်ခတ်၍ နေလေသည်။

ထိုအခါ သာယာဝတီမင်းက။ ဦးမြတ်စံ၏သားသည်။ အမည်မှည့်၍ဦးပလားဟု မေးတော်မူရာ။ မမှည့်ရပါသေးကြောင်းနှင့်တင်လျှောက်လေ၏။ တာမြင့်ကျပ်ကအမည်မှည့်တော်မူမည်။ စည်များကို ပုတ် ခတ်တီးသောနိမိတ်ဖြင့်။ ဤကလေးသည်။ နောင်ကြီးသောအခါ။ ကဗျာလင်္ကာရေး။ ဇာတ်ရေးမှစ၍။ ပညာ အလုံးစုံ တတ်မြောက်မည့် လက္ခဏာနိမိတ်ပါသောကြောင့် (မောင်ပုတ်စည်) ဟု။ အမည်မှည့်တော် မူမည်ဟု မိန့်တော်မူ၍။ ရွှေဒေါင်းခွက် ၂ သား။ ငွေခြေချင်းခေါင်းပွကြီးတရံတဆယ်သားကို ဆင်တော်မူ၍။ သာယာဝတီမင်းက။ အမည်နာမ ကရုဏာကိုမှည့်တော်မူ၏။

ထိုကမှစ၍သဖြင့်ကြီးပွား၍။ ၆-နှစ်ရွယ်သို့ရောက်သောအခါ။ တူမောင်းဆရာတော်ကြီး ဦးဒီပ ထံ အပ်နှံလေသည်။ ထိုကမှစ၍ ပညာသင်ကြားသည်မှာ။ နမောဗုဒ္ဓါယ။ ၁၅-ခေါက်နှင့်ရလေသည်။ က ကြီး ခခွေးကိုလည်း။ အခေါက်သုံးဆယ်နှင့်ရလေသည်။ ကကြီးရေက အစရှိသောသင်ပုန်းကြီးကို။ ဆယ် ရက်နှင့်ကုန်၍။ သင်ပုန်းကြီးစာများကို။ တလနှင့်အကုန်အလွှတ်ရေးနိုင်လေသည်။

မင်္ဂလသုတ်သို့တက်ခါနီးတွင်။ မိခင်။ ဘခင်များက။ တူမောင်းဆရာတော်ကြီးနှင့်တကွ။ ကျောင်း နေ သံဃာတော်အလုံးစုံတို့ကို။ ဆွမ်းလှူဒါန်းကျွေးမွေးခြင်းပြုလေသည်။ ဆရာတော်ကြီးသည် မင်္ဂလသုတ် ကို သင်တော်မူ၍။ ဆယ်ရက်နှင့်ပဋိအနက်ကုန်ပြီးလျှင် နမက္ကာရ။ အောင်ခြင်းရှစ်ပါး။ ရတနာရွှေချိုင့်များ ကို။ ပဋိအနက်နှင့်တကွ။ တလအတွင်း ကုန်ခြင်းသို့ရောက်လေ၏။ ပရိတ်ကြီးပဋိအနက်ကို ဆက်လက်၍ သင်ရာ တလအတွင်း နှုတ်တက်အာရုံရှိလေ၏။

ထိုအခါ မိဘတို့က။ ဆရာတော်ကြီးထံလှူရန်နှင့်လာကြပြီးလျှင် သားမောင်ပုတ်စည်ကို။ သာယာ ဝတီမင်းထံခေါ်သွားရန် ၇ ရက်ခွင့်တောင်းလျှောက်ထားကြရာ။ ခွင့်ရသည်နှင့်။ အမရပူရမြို့ သာယာဝတီ မင်းအိမ်တော်သို့ ဝင်ထွက်ခစားရာ သာယာဝတီမင်းမြင်တော်မူ၍။ ပုတ်စည် ပါလာသလားကဲ့ဟု မေး တော်မူရာ။ ရွှေဘဝါးတော်မြတ်အောက်သို့ အဖူးအမြော်ရောက်ပါကြောင်းဘုရားဟု သံတော်ဦး တင် လေသည်။

* The prize-winning essay, No. 2 of Competition B in the Burmese Essay Prize Competition concluded from Vol. XV, II, 149.

မင်းကျောင်းမှာနေတာ။ ဘာစာများကိုရောက်ခဲ့သလဲဟု မေးမြန်းတော်မူ၏။ မင်္ဂလသုတ်။ အောင်မြင်းရှစ်ပါး။ ရတနာရွှေချိုင့်။ နမက္ကာရ။ ပရိတ်ကြီးများကို ကုန်ခဲ့ပါကြောင်း သံတော်ဦးတင်ရာ နမက္ကာရပါဠိအနက်များကို ပြန်စမ်းပါကွယ်ဟု အမိန့်တော်ရှိရာ ပြန်လျှောက်လေ၏။

ပရိတ်ကြီး ဇေတသုတ်များကို။ ပါဠိအနက်နှင့်တကွ ပြန်စမ်းပါဦးဟု ထပ်မံမိန့်တော်မူပြန်ရာ။ ပြန်လျှောက်လေ၏။ သာယာဝတီမင်းသည်။ သည်ကနေ့။ ငါ၏မင်္ဂလာအိမ်တော်သည် စာပြန်သုဓမ္မာဇရပ်နှင့်တူပေသည်။ မောင်ပုတ်စည်သည်။ ဇေတသုတ်ကို မထွေးမလုံးပြန်တတ်ပေ၏။ ငါတို့ငယ်စဉ်က။ ဇေတသုတ်ဟာ အပြန်အတော်ခက်သော စာဖြစ်သည်။ ထို့ကြောင့် ရှေးသူကြီးတို့သည် ရှင်မှာဇုန် ဇေတ ဆိုကြလေသည်။ မောင်ပုတ်စည်။ မင်းကြီးလျှင်။ မဟာပညာကျော်ကဲ့သို့ဖြစ်လိမ့်မည်။ စာများကိုကြိုးစား၍သင်ရမည်။ ဇာတ်ကြီး (၁၀) စောင်ကို ကုန်အောင်သင် ကုန်လျှင် ငါက (ငွေ ၁၀၀၀) သနားတော်မူမည်ဟု မိန့်တော်မူပြီးလျှင်။ ငွေတမိဿာနှင့် အချိပ်ပုဆိုးတထည်။ ကတ္တီပါအင်္ကျီတထည် သနားတော်မူလေ၏။ ငါးရက်စေ့သောနေ့၌။ မိခင်မလှရင်နှင့်။ စလေမြို့သို့ လှေကြိုတွင် ပြန်သွားကြလေ၏။

စလေသို့ရောက်သောအခါ။ ကျောင်းသို့သွားရောက်၍ လှူရန်ဒါန်းရန်နှင့်တကွ။ တူမောင်းဆရာတော်ဘုရားကြီးထံသို့ မောင်ပုတ်စည်ကိုအပ်နှံလေ၏။

ဆရာတော်ဘုရားကြီးက။ ပုတ်စည် ပြန်လာပလား။ သာယာဝတီမင်းက။ ဘာများပေးလိုက်သလဲဟု မေးတော်မူရာ ငွေ တမိဿာ၊ မြို့တိုးနှင့်။ အချိပ်ပုဆိုးတထည်။ ကတ္တီပါအင်္ကျီတထည် ဆုပေးတော်မူလိုက်ပါသည်ဘုရားဟု လျှောက်ထားလေ၏။

ငင်းပြင်သာယာဝတီမင်းက ဘာများမှာလိုက်သေးသလဲဟုမေးတော်မူရာ။ ဇာတ်ကြီးဆယ်စောင်ကိုကုန်အောင်သင်ရမည်။ ကုန်လျှင် ငွေ (၁၀၀၀) သနားတော်မူမည်ဟု အမိန့်တော်ရှိလိုက်ပါသည်ဘုရားဟုလျှောက်ထားရာ။ ဆရာတော်ဘုရားကြီးက။ ဇာတ်ကြီးဆယ်စောင် သည်လိုရင်းမဟုတ်။ သဒ္ဓါများကိုသာ လိုရင်းဖြစ်သည်။ သို့သော် တေဓဇာတ်ကို နံနက်စာပြီးလျှင် တဝါတက်ရမည်။ နေ့ဆွမ်းပြီးလျှင်။ သုတ်စင်ကို ဆယ်ရက်နှင့် အကုန်နှုတ်တက်ရအောင် တတ်ရမည်ဟု မိန့်တော်မူလေ၏။

ထိုသို့စာပေးကျမ်းဂန်များကိုသင်ကြား၍။ သဒ္ဓါကြို။ သဒ္ဓါငယ်။ ဆန်း။ အလင်္ကာ။ အဘိဓာန်များကို (၇) နှစ်သား အရွယ်သို့ရောက်လျှင် နှုတ်တက်ရ၍ ကုန်လေ၏။ ရှစ်နှစ်သားအရွယ်သို့ ရောက်သောအခါ။ သဒ္ဓနီတိ။ သုတ္တမာလာ။ ပဒမာလာ။ ဓာတုမာလာ သုံးစောင်များကို ကုန်လွန်၍ သင်္ဂြိုဟ် ၉ ပိုင်း။ ဋီကာကျော်များနှင့်။ ဗျာကရုဏ်းကျမ်းကြီးများကို တတ်မြောက်လေ၏။

ထိုအခါ တူမောင်းဆရာတော်ကြီးသည်။ ပြန်လွန်တော်မူ၍။ အလောင်းတော် ဗျာပနကိစ္စများအတွက်။ ရှစ်လလောက်စာသင်ပျက်၍ သွားလေသည်။ ထိုဆရာတော်ကြီး၏ အလောင်းတော်မြတ်ကို ဗျာပနကိစ္စဖြင့်။ သင်္ဂြိုဟ်၍ပြီးသောအခါ။ တလလွန်မြောက်ရှိလျှင် စာသင်စာတက်ချိန် ရောက်သောကာလ။ သာယာဝတီမင်းထံ။ ဘခင်ဦးမြတ်စံနှင့် လိုက်သွား၍။ သာယာဝတီမင်းရှေ့တော်သို့ရောက်သောအခါ။ မောင်ပုတ်စည် ပါလာသလားကဲ့ဟု မေးတော်မူလေ၏။ မှန်လှပါဘုရား ရွှေတဝါးတော်မြတ်အောက်သို့မရောက်ရတာ ကြာလှပါ၍။ ရွှေမျက်နှာတော်များကို။ အဖူးအမြော် လိုက်ပါ လာရပါကြောင်းနှင့် သံတော်ဦးတင်လေ၏။

သာယာဝတီမင်းက။ မင်းဆရာ။ တူမောင်းဆရာတော်ကြီးပြန်လွန်တော်မူသောကိစ္စနှင့်။ စာသင်ပျက်နေကြောင်းကို။ ငါကြားသိတော်မူရသည်။ မင်း ဇာတ်ကြီးဆယ်စောင်များကုန်ခဲ့ပလားဟု မေးတော်မူရာ။ ဇာတ်ကြီးဆယ်စောင်မက။ ဆန်း။ အလင်္ကာ။ သဒ္ဓါ။ အဘိဓာန်။ သင်္ဂြိုဟ်။ ဋီကာကျော်များနှင့်။ ဗျာကရုဏ်းကျမ်းများပါ ကုန်ခဲ့ပါကြောင်း။ သံတော်ဦးတင်သည်ရှိသော်။ အားရတော်မူ၍။ အထက်မိန့်တော်မူရင်းအတိုင်း ငွေ (၁၀၀၀) သနားတော်မူသည့်ပြင်။ အချိပ်ပုဆိုး ၂ ထည်နှင့်။ အင်္ကျီချုပ်ရန်။ ကတ္တီပါအင်္ကျီတထည်နှင့်။ စလေသို့ရောက်သောအခါ။ ကျောင်းသို့သွားရောက်၍ လှူရန်ဒါန်းရန်နှင့်တကွ။ တူမောင်းဆရာတော်ဘုရားကြီးထံသို့ မောင်ပုတ်စည်ကိုအပ်နှံလေ၏။

မင်းဆရာ။ တူမောင်းဆရာတော်ကြီး ပြန်လွန်တော်မူလျှင်။ စာပေကျမ်းဂန်တတ်ကျွမ်းထက်မျက်စိမှားခြင်း။ ဗျာကရဏ်ကျမ်းပေဒင်ကျမ်းကြီးများကိုကောင်းစွာတတ်မြောက်သော ဗန်းမော်တိုက်နေ့ရှေ့တောင်မြို့ဆရာတော်ဦးပဏ္ဍိတံသို့။ ပညာသင်ကြားရန်။ ဦးမြတ်စံကသွားရောက်၍။ ကျွန်ုပ်အမိန့်တော်နှင့် မောင်ပုတ်စည်ကို။ ပညာတတ်မြောက်အောင် သင်ကြားတော်မူပါလို့ လျှောက်ထား အပ်နှံချေမည်ဟု မိန့်တော်မူလေ၏။

ထိုအခါ။ ဦးမြတ်စံသည်။ မောင်ပုတ်စည်ကို ရှင်ပြုရန်အချိန်ကျသည်နှင့်။ ဗန်းမော်တိုက်တွင်။ ဗန်းမော် ဆရာတော် (ပဏ္ဍိတဝံသာဘိဇေ မဟာဓမ္မ ရာဇာမိ ရာဇဂုရု။) ဆရာတော်ဘုရားကြီးထံ သွားရောက် အပ်နှံလေ၏။

ဗန်းမော်ဆရာတော်ဘုရားသည်။ မောင်ပုတ်စည်၏ သွင်ပြင်လက္ခဏာ။ အင်္ဂါရုပ်ဓာတ်ကိုကြည့်၍။ ဒါယကာမောင်မြတ်စံ။ သင်၏သားသည်။ ပညာထက်သန် လျှိုးမြန်သောဇဝန-ဟာသ။ တိက္ခဉာဏ်တို့ ပြည့်စုံလိမ့်မည်။ နိုင်ငံတန်ခိုး။ ကျော်ဟိုးသိဒ္ဓိ။ ဣန္ဒြိယတိုင်း ပြည့်လိမ့်မည်။ နှုတ်ထက် သွက်ပါး။ ကြောက်ရွံ့ခြင်းကင်းရှား၍။ မင်းအများနိုင်စက်ပြီးလျှင်။ မင်းအကဲသင့်တတ်လေသည်။

သို့အတွက်။ မင်း သားကို။ သာသနာတော်ဘောင်၌ အသက်ထက်ဆုံးနေထိုင်လျှင်။ ဆရာတော်ကြီးတဆူ။ ဇမ္ဗူမဆန်အောင် ပြန့်နှံ့ ကျော်စောလိမ့်မည်။ ရဟန်းအဖြစ်မှမနေနိုင်လျှင်။ ကုန်သည်မျိုးပြုလုပ်၍။ ချမ်းသာသူကို လိုတိုင်းရလိမ့်မည်။ လူဝတ်နှင့်နေလျှင်။ မင်းခစားမှူးမတ်မလုပ်အပ်ဟု မိန့်တော်မူပေ၏။

တကားဦးမြတ်စံသည်။ ဆရာတော်ဘုရားကြီးမိန့်တော်မူသည့်အတိုင်း။ ဘုရားတပည့်တော်၏သားကို။ သာသနာတော်၌။ ရဟန်းအဖြစ်သို့ရောက်အောင်။ အရှင်ဘုရား သွန်သင်ဆုံးမဩဝါဒပေးတော်မူပါဘုရားဟု လျှောက်ထားတောင်းပန်လေ၏။ ထိုအခါ မောင်ပုတ်စည်ကို။ ဝါဆိုလဆန်း (၁၀) ရက်နေ့တွင်။ အသက်ရှစ်နှစ်ပြည့်၍ ရှင်ပြုလိုပါကြောင်း လျှောက်ထားလေ၏။

ဗန်းမော်ဆရာတော်ဘုရားကြီးသည်။ ကောင်း၏ဟု ဝန်ခံပြီးလျှင်။ ပုတီးစိတ်-သင်္ကန်းတောင်း။ လိင်ဆယ်ပါး။ အက် ၁၀ ပါး။ သေဒိယများကို သင်စေ၍။ စလေမြို့တွင် ရှင်ပြုသေသည်။ ရှင်ပြုသောအခါ။ သာယာဝတီမင်းက။ ငွေ (၅၀၀) မြင်းကောင်းတစီး လက်ဖွဲ့တော်မူလေသည်။

ထိုသို့ရှင်ပြု၍ပြီးသောအခါ။ ဗန်းမော်ဆရာတော်ကြီးက။ (ရှင်ပုညဟု) ဘွဲ့ပေးတော်မူ၍။ ရဟန်းပြုလုပ်၍နေလျှင် အသက်ရှေ့မည်။ မင်းခစားလုပ်လျှင်။ မင်းဘေးသင့်တတ်သည်ဟုဟောပြောနားချ၍။ ဒွေးမာတိကာ။ ဝိနည်းငယ်လေးစောင်။ ကင်္ခါအဋ္ဌကထာများကို သင်ကြားခြင်း။ ယမိုက်ဆယ်ကျွမ်း။ မာတိကာ။ ဓာတုကထာ။ အဘိဓမ္မာ (၇) ကျမ်းများကို သင်ကြားပြီးလျှင်။ အဋ္ဌသာလိနီ။ သမောအဋ္ဌကထာ။ သုတ်သီလက္ခန် အဋ္ဌကထာ။ နေတ္တိအစရှိသော။ အဘိဓမ္မာ။ သုတ္တန်ကျမ်းကြီး ကျမ်းဂန်တို့ကို။ သာမဏေဝါ-သုံးဝါနှင့် ကုန်စင်အောင်သင်၍ တတ်မြောက်လေ၏။

ထိုအခါ။ သာယာဝတီမင်း၏နောင်တော်။ အိမ်ရှေ့မင်းကြီးသည်။ သက္ကရာဇ် (၁၁၈၁) ခုနှစ်တွင်။ နယုန်လဆန်း ၁၅ ရက်နေ့၌ ရွှေနန်းတက်၍ မင်းဖြစ်တော်မူလျှင်။ (၁၁၈၃) ခုနှစ်၌။ ရတနာပုရ အဝဇ္ဇိကို။ စတုတ္ထမြောက်ချဲ့ထွင်တည်ထောင်၍ စံနေတော်မူရာ။ နောင်တော်မင်းတရားကြီးနှင့် အဝဇ္ဇိသို့ပြောင်းရွှေ့လိုက်ပါတော်မူလေ၏။

စလေ ကိုရှင်ပုညသည်။ ဗန်းမော် ဆရာတော်ကြီးထံ၌။ စာပေသင်ကြား၍။ ပိဋကတ်-ဗေဒင်ကောင်းစွာ နားလည် တတ်မြောက်သည့်ပြင်။ ကဗျာလင်္ကာရေး။ တောလာရေးများကို ကျွမ်းကျင်တတ်မြောက်လေ၏။

တနေ့သ၌။ သာယာဝတီမင်းသည် မှူးတော် မတ်တော် မင်းညီ မင်းသားတို့ ဂုန်းချောကြသည့်အတွက် ရန်ဘေးကင်းရန်။ စစ်ကိုင်းကကူးပြီးလျှင်။ ရွှေဘိုမြို့သို့ အခြွေအရံများစွာနှင့် ထွက်သွားတော်မူရာ။ စလေရှင်ပုည၏ ဘခင် အကြီးတော်ဦးမြတ်စံပါ။ နောက်တော်က လိုက်ပါသွားရသောကြောင့်။ မိခင်မလှရင်မှာ။ စလေမြို့သို့ ပြန်ရောက်နေထိုင်လေ၏။

ထိုအခါ။ စလေ ရှင်ပုညသည်။ မိခင်ထံ စလေမြို့သို့ တူမောင်းဆရာတော်ကြီး၏တပည့် ရဟန်း တော်များနှင့် အတူလိုက်ပါသွားလေ၏။

ကိုရှင်ပုည၏မိခင် မလှရင်သည်။ စလေမြို့သို့ရောက်၍ ငါးလလောက် ကြာသောအခါ။ ဖူးနာ၍ အနိစ္စရောက်လေ၏။ တခင်ဖြစ်သူ အကြီးတော် ဦးမြတ်စံသည်လည်း။ သာယာငတီမင်း ရွှေဘိုသို့ ထွက် သွားတော်မူရာ လမ်းစခမ်းတွင် အတိုက်အခိုက်များလှသည်နှင့်။ လက်နက်မှန်၍ သရိုက်နယ်တွင် အနိစ္စ ရောက်ရှာလေသည်။

သာယာဝတီမင်းသည်။ ရွှေဘိုက လူစည်းဝေး စုဆောင်းပြီးလျှင်။ စစ်ကိုင်းမြို့ကနေ၍။ ရတနာပူရ အဝမြို့သို့တိုက်ခိုက်ရာ။ နောင်တော်မင်းတရားကြီးက။ နန်းကိုအပ်နှင်းရလေသည်။

သာယာဝတီ ရွှေဘိုမင်းသည်။ သက္ကရာဇ် (၁၁၉၉) ခုနှစ်တွင်။ ရတနာပူရအဝမြို့တွင်။ ရွှေနန်းတက် ၍ စံတော်မူလေ၏။

နန်းစံသောအခါ။ စလေရှင်ပုညကို ပင့်ခေါ်တော်မူ၍။ နန်းတော်သို့ရောက်လျှင်။ ကိုရှင်မောင်ပုည။ ကိုရှင်၏ဘခင်ကို ရာထူးကြီးကျယ်စွာမချီးမြှောက်လိုက်ရ။ ထွက်တော်မူရာတွင်အနိစ္စရောက်ရှာလေသည်။ စလေ-ပုခန်းငယ် ၂ မြို့ဝန်ရာထူးကို ခန့်ထားချီးမြှောက် သနားတော်မူမည်ဟု ရာထူးတော်မူမည်ကို ကြေကွဲတော်မူကြောင်းနှင့် အမိန့်တော်ရှိလေ၏။

ကိုရှင်ပုညက။ ဒါယကာမင်းတရားမြတ်။ သုံးဆယ့်တတိယသားတို့သည်။ အနိစ္စတရား။ သင်္ခါရတရားမှ မလွန်မြောက်နိုင်ကြပေ။ ထိုကြောင့် သဗ္ဗေသင်္ခါရအနိစ္စဟု မြတ်စွာဘုရားဟောကြားတော်မူသော ဒေသ နာတော်တင်ရှားရှိပေသည်။ ထိုဒေသနာတရားတော်မှလည်း မလွန်နိုင်ပေဟူ၍။ တရားဟောပြုလေသည်

ထိုအခါ ရွှေဘိုမင်းတရားကြီးသည်။ မောင်ရှင်ကိုပုည။ သာသနာတော်ဘောင်မှ မပျော်လျှင် တကာတော်ကချီးမြှောက်သူကောင်းပြုမည်ဟု မိန့်တော်မူ၏။

ထိုအခါ။ မောင်ရှင်ပုညက။ ဒါယကာရေမြေရှင်၏ ဘုန်းတော်ရိပ်ကိုခိုလှုံ၍။ သုခချမ်းသာစွာ နေရ မည်ဆိုသော်။ အလွန်ဝမ်းမြောက်လှပါ၏။ ကျေးဇူးတော် အလွန်ကြီးလှပါသည်။ သို့သော် ဗန်းမော်ဆရာ တော်ဘုရားကြီးက။ ငါ့တပည့်သည် မင်းခစားလုပ်လျှင်။ မင်းဘေးမင်းဒဏ်သင့်တတ်သည်ဟု အမိန့်တော် ရှိပါသောကြောင့်။ သာသနာတော်၌သာ ထမ်းရွက်နေထိုင်လိုပါကြောင်း ပြောဆိုလေ၏။

ရွှေဘိုမင်းတရားကြီးဘုရားသည်။ သာဓုခေါ်တော်မူ၍။ မောင်ရှင်ပုညကို တလလျှင် ဆန် ဆယ် တင်းနှင့် သင်္ကန်းတံစုံ လှူဒါန်းတော်မူမည်ဟု ဘိတ်မန်တော်မူပြီးလျှင်။ အမရပူရမြို့။ ဗန်းမော်တိုက်သို့ ပြန်ကြွတော်မူလေသည်။

မောင်ရှင်ပုညသည်။ ဗေဒင်ယတြာနှင့်တကွ။ ကဗျာလင်္ကာရေးများကို ကောင်းစွာနားလည်တတ် မြောက်လှသည်ဖြစ်၍။ အသက် နှစ်ဆယ်အပြည့်တွင်။ စလေ-ပုခန်းငယ် ၂ မြို့အုပ်က။ ရဟန်းဒါယကာခံ၍ ပဉ္စင်းပြုပြီးလျှင်။ သုံးဝါအရတွင် ကျောင်းထိုင်၍နေလေ၏။

ထိုအခါ ရွှေဘိုမင်းတရားကြီးသည်။ ရန်ကုန်မြို့သို့စုန်တော်မူ၍။ ဒဂုံမြို့တွင်စံနေတော်မူသောအခါ။ ရန်ကုန်သို့ စလေဦးပုည လိုက်မည်အပြုတွင်။ ကျောင်း၌ ဒါယကာမများ အလာအရောက် အလှူအတန်း များကြသောကြောင့်။ မြို့အုပ်ရဟန်းဒါယကာက မသင်္ကာရှိ၍ အကြည်ညိုပျက်သည်နှင့်။ သိက္ခာချလူထွက် ပြီးလျှင်။ ရန်ကုန်သို့စုန်ဆင်းသွားရောက်ရာ။ ဗဟန်းတောရတွင် သာမဏေပြုလုပ်နေထိုင်ပြန်၍။ ကန်တော် ကြီး။ ဗဟန်း။ တောလားဘွဲ့များကို ရေးသားခြင်းပြုရာတွင်။ မယ်သီလများနှင့်မတူ၍။ ရဟန်းတော်များနှင့် လည်း မတူရှိသောကြောင့်။ နေပြည်တော် အမရပူရမြို့။ ဗန်းမော်ကျောင်းတိုက်သို့ ပြန်ရောက်နေထိုင် လေ၏။

ရွှေဘို မင်းတရားကြီးသည်။ ဒဂုံမြို့က ဆန်တက်ပြန်လည်တော်မူ၍။ ရတနာပူရ အဝမြို့သို့ ရောက် တော်မူလျှင်။ မမမကျန်းတော်မူသည့်အတွက်။ နန်းစံ ၉ နှစ်။ သက်တော် (၅၁) နှစ်တွင် နတ်ရွာစံတော် မူ၍။ မိဘုရားခေါင်ကြီးက ဘွားတော်မူသော။ သားတော် ပုဂံမင်းသည်။ သက္ကရာဇ် (၁၂၀၈) ခု၊ နတ်တော် လဆန်း (၁) ရက်နေ့တွင်။ မင်းအဖြစ်ကိုယူတော်မူ၍။ အမရပူရမြို့၌ ရွှေနန်းစံတော်မူ၏။

စလေကိရှင်ကြီး ဦးပုညသည်။ စလေမြို့သို့သွားရောက် နေထိုင်ပြီးလျှင်။ တရားစာများကို ရေးသားခြင်း။ မေတ္တာစာအမျိုးမျိုးတို့ကိုရေးသားခြင်း။ စလေမြို့က အမရပူရမြို့။ မန်းမော်တိုက်သို့ပြန်ရောက်ပြီးလျှင်။ ဗေဒင်ဟောကိန်းလင်္ကာနှင့် တေးထပ် အရပ်ရပ်များကိုဆွဲဆိုရေးသား၍။ ကိရှင်ကြီးအဖြစ်နှင့် သုံးနှစ်နေထိုင်ပြီးလျှင် လူထွက်၍။ မင်းတုန်းမင်း ကနောင်မင်းတို့အိမ်တော်တွင် အမှုထမ်းစား၍နေလေ၏။

ထိုအခါ ကနောင်မင်းက။ စလေဆရာ ကိုပုည။ သပြီဟ်ကျမ်းသည်။ အလွန်ခက်ခဲနက်နဲလှသည်။ နောက်သားတို့ ပျော်ရွှင်ဘွယ်အလွယ်သိကြစေရန်။ သပြီဟ်-၉-ပိုင်း သရုပ် အဓိပ္ပါယ်များကို ပေါ်လွင်အောင်တေးထပ်ရေးပါဟုတောင်းပန်သောကြောင့်။ သပြီဟ်-၉-ပိုင်း။ သရုပ်အဓိပ္ပါယ်တေးထပ်ရေးသားဆက်သွင်းရာ။ အားရတော်မူ၍။ ပိုးပုဆိုး ၂ ထည်။ ခေါင်းပေါင်းခါသာတအုပ်။ ငွေ သုံးဗိဿာဆုပေးတော်မူ၏။

၎င်းနောက် မင်းတုန်းမင်းသားက။ ကိုပုည။ ဇင်းမယ်ကိုနိုင်သောအကြောင်း။ မော်ကွန်းများ ရေးဆက်ရမည်ဟု အမိန့်တော်ရှိရာ။ ဇင်းမယ်နိုင်မော်ကွန်းကို ရေးဆက်လေသည်။ ဆုတော်ငွေ (ငါးဗိဿာ) သနားတော်မူ၏။

တနေ့သ၌။ မေတ္တာရာမြို့ ထားပြတိုက်ခိုက်ရာတွင်။ မင်းတုန်းမင်း။ ကနောင်မင်းတို့ အိမ်တော်သားများ ဟုထင်မြင်၍။ နန်းတော်ကအမှုရာကြံကြသောကြောင့်။ ညီတော် နောင်တော် ၂ ပါးတို့သည်။ ရွှေဘိုမြို့သို့ ထွက်သွားတော်မူကြပြီးလျှင်။ အမရပူရမြို့။ နောင်တော်ပုဂံမင်းကို ခုခံတိုက်ခိုက်ကြသည့်အတွင်း။ ဆရာကြီး ဦးပုညသည်။ မန်းမော်တိုက်၌သာမဏေလုပ်၍ ပုန်းနေပြီးလျှင်။ ဗေဒင်ဟောကိန်းရကန်များကို ရေးသား၍ နေလေသည်။ ၎င်းနောက် ဗိန္ဒောဆေးကျမ်းအရာ၌နိုင်နင်း လှသော။ ယုန်းကျောင်း ဘုန်းကြီးများနှင့် မတွေ့၍။ ဆေးကျမ်းလင်္ကာများကို ရေးသားနေထိုင်ခြင်း။ ကောသလဇာတ်။ ရေသည်ဇာတ်များကို ရေးသားခြင်း။ ဝေဿန္တရာဇာတ် ဟောစာများကိုလည်း ရေးသား၍နေလေသည်။

မင်းတုန်းမင်း။ ကနောင်မင်းတို့သည်။ ရွှေဘိုမြို့ကိုစီးနင်းမိ၍။ လူသူစုရုံးပြီးလျှင် စစ်ကိုင်းမြို့ကနေ၍။ ကနောင်မင်းသည် အမရပူရမြို့သို့တိုက်ခိုက်ရာ အောင်မြင်သည်နှင့်။ နောင်တော် ပုဂံမင်းကို ရွှေဘိုမြို့သို့ (၁၂၁၄)ခုနှစ်တွင် ခေါ်သွား၍။ အမရပူရမြို့ကို မင်းတုန်းမင်း ရွှေဘိုမြို့ကပြောင်း၍။ ခေတ္တစံနေတော်မူလေသည်။

ထိုအခါဆရာကြီးဦးပုညသည်။ ပဒုမဇာတ်ကိုရေးသား၍ပြီးသည်နောက်။ ကနောင်မင်းနှင့်တွေ့၍။ ဝိဇယဇာတ်ကို ရေးရန်ပြောသည်နှင့်။ ကျောင်းသို့ရောက်သောအခါ။ ကိရှင်ကြီးအဖြစ်နှင့် ဝိဇယဇာတ် နှုတ်ကစီကုံး၍။ မောင်သာထွန်းဆိုသောတပည့်ကို ရေးစေပြီးလျှင်။ ၂-ဇာတ်ကို သုံးရက်နှင့်ပြီးလေသည်။

ထိုအခါမင်းတုန်းမင်းသည်။ သက်တော် ၃၈-နှစ်။ သက္ကရာဇ် ၁၂၁၄-ခု။ တပေါင်းလဆန်း ၁၅ ရက် ကြာသပတေးနေ့တွင် မင်းအဖြစ်သို့ရောက်တော်မူသည်။

ဘဝရှင်မင်းတရားကြီးသည်။ မန္တလေးမြို့ကို တည်ထောင်လိုသော သဘောတော်ညွတ်သဖြင့်။ မောင်ပုညသည်။ ဗေဒင်ယတြာများ ကောင်းစွာနိုင်နင်းတတ်မြောက်လှသည်ဟု ကျော်ကြားပေသည်။ ငါတို့ညီတော်နောင်တော်များ ခပ်ခြစ်၍နေသည့်အတွင်း။ စလေမောင်ပုညပျောက်ကွယ်၍နေရသည်ဟု။ ညီတော် ကနောင်မင်းနှင့် တိုင်ပင်တော်မူ၍။ မောင်ပုညကို ရှာကြံရမည်ဟု အမိန့်တော်မြတ်ရှိရာ။ မောင်ချင်းတီးက။ မောင်ပုညသည် မန်းမော်တိုက်၌ ကိရှင်ကြီးလုပ်၍နေကြောင်းကို ကြားသိရပါသည် ဘုရားဟု သံတော်ဦးတင်ရာ။ ကြားသိတော်မူ၍ အပင့်ခိုင်းပြီးလျှင်။ ရွှေတော်သို့ဝင်ရလေ၏။

ရွှေတော်သို့ ဦးပုညရောက်လျှင် ပြီးတော်မူ၍။ စလေဆရာ။ ကျွန်ုပ်နှင့် ရွှေဘိုကိုထွက်တော်မူရာ မလိုက်ခဲ့ဘဲကိုးဟု မိန့်တော်မူ၏။ ဘုန်းတော်ကြီးမြတ်တော်မူလှသောဘုရားသည်။ မင်းဧကရာဇ်အဖြစ်သို့ အမှန်ရောက်တော်မူမည်ကို သိရပါသောကြောင့်။ မန်းမော်တိုက်ကနေပြီးလျှင်။ အောင်ကြောင်းမင်္ဂလာ။ မေတ္တာယတြာများဆင်၍။ လောကီကျမ်းများကို ရေးသားစီရင်၍ နေရစ်ရပါကြောင်း ပြောဆို တင်လျှောက်လေ၏။

ထိုအခါ မင်းတုန်းမင်းက၊ မန္တလေးတောင်အရပ်၌ မြို့တည်မည်အကြံတော်ရှိသည်။ အခါတော်များ ရေးသားဆက်သွင်းရမည်ဟု အမိန့်တော်ရှိရာ။ (၁၂၁၈) ခုနှစ်ကစ၍ တည်ထောင်တော်မူလျှင်။ သာသနာတော် အလွန်စည်ပင်၍။ အရေးအရာခပ်သိမ်း ပြီးငြိမ်းအောင်မြင်တော်မူရန် ရှိပါကြောင်း။ နံတော် အင်္ဂါသားဖြစ်တော်မူ၍။ ဂေါတမမြတ်စွာဘုရားသည်။ ညောင်ဗုဒ္ဓဟေပင်တွင် ပွင့်တော်မူသောကြောင့်။ အင်္ဂါနံ ညောင်ပင်များသည် အမြတ်ဆုံးသမုတ်ရပါသောကြောင့်။ ထိုညောင်ပင်များကို ယတြာပြု၍ ။ တံခါးဝကြီးငယ် အရပ်တိုင်း လမ်း ၄ ခု ပြလမ်းတိုင်း ညောင်စိုက်တော်မူပါလျှင်။ လိုသောဆန္ဒ ဣစ္ဆိတဗွဲကိစ္စများကို ပြီးမြောက်အောင်မြင်ရန်ရှိပါကြောင်းနှင့် လျှောက်ထားတင်ဆက်လေ၏။

တံဆိပ်တော်ရ ဆရာတော်ကြီးများကိုလည်း။ မန္တလေးအကြောင်း သွင်းစာများကို တင်သွင်းတော်မူကြရန်လျှောက်ထား၍။ မန္တလေးမြို့ တည်ထောင်ရန် သွင်းစာများကို။ ဆရာတော်မြတ်များက သွင်းတော်မူကြရလေသည်။

ထိုအခါ စလေကိုရှင်ပုညသည်။ သာမဏေအဖြစ်မှ လူထွက်၍။ ကနောင်မင်းထံ ခစားလေ၏။ မန္တလေးမြို့ကိုလည်း။ လေးနှစ်အတွင်း တည်ထောင်၍ပြီးသည်နှင့်။ စလေဆရာကြီး ဦးပုညကို။ စာဆိုတော်အရာနှင့်။ ရွာစည်ရွာကို အပိုင်စားသနားတော်မူပြီးလျှင်။ (မင်းလှသင်္ခယာ) ဟူသောဘွဲ့ကိုချီးမြှင့်တော်မူ၏။

ဦးပုညသည် မန္တလေးမြို့၌ (လေယန္တနန်းဘုံ။ မြမန်းလေ ဇေယျာနံ။) ဟူသောဘွဲ့ကို ဘွဲ့ဆိုဆက်သွင်းရာ။ ငွေတော် သုံးဗိဿာနှင့်။ ပုဆိုး ခေါင်းပေါင်း ခါသာအုပ်များကိုသနားတော်မူလေသည်။

ရတနာ နဒီမြစ်တော်ကိုလည်း အရှေ့မျက်နှာက တူးတော်မူ၍။ နန်းမြေဘုံသာ စံနန်းတော်မှတောင်ဘက် မြောင်းမတော်တူးဖောက်၍ကျုံးတော်တွင်းသို့ ရေသွင်းရလေသည်။ ထိုရတနာနဒီမြစ်တော် မော်ကွန်းကိုလည်း ရေးသားဆက်သွင်းရာ။ ဆုတော်များစွာ သနားချီးမြှောက်တော်မူလေ၏။

မန္တလေးမြို့၌ မော်ကွန်းကိုလည်း ရေးသားဆက်သွင်းရမည်ဟု အိမ်ရှေ့မင်းကြီးမဟာဥပရာဇာက မိန့်တော်မူရာ။ ရေးသားဆက်သွင်း၍။ ငွေ သုံးဗိဿာနှင့် စပ်ပုဆိုးတထည်။ ခါသာအုပ်တအုပ် သနားတော်မူလေသည်။

တနွေသ၌။ မြင်ကွန်းမင်းသား။ မြင်းခုံတိုင်မင်းသားတို့က ခေါ်တော်မူ၍။ မေဗင်ယတြာများကို မေးတော်မူရာ။ ဘုန်းတော်ကြီးလှသောအရှင်မင်းသား။ အသက်တော်အလွန်ရှည်တော်မူမည်။ မြို့ရှင်ပြည့်ရှင် ဖြစ်သည့်ပြင်။ ရန်သူအပေါင်းကိုအောင်မြင်ခြင်း။ ဘာသာတူးများကို တွက်မြောက်ကွမ်းကိုင်ခြင်း။ အကြံအစည်များသည် အပြီးမြောက်ရန်ရှိပါကြောင်းနှင့် သံတော်ဦးတင်ရာ။ ဆရာကြီး အတွင်းစကားများကို လူမကြားစေနှင့်ဟု မိန့်တော်မူ၍။ ငွေတဗိဿာ။ ပိုးပုဆိုး။ ခေါင်းပေါင်း ခါသာအုပ်များကို ဆုပေးတော်မူလေ၏။

ထိုအကြောင်းကို။ ကနောင်မြို့စား အိမ်ရှေ့မင်းကြီးကြားသိတော်မူလျှင်။ စလေဆရာကြီးဦးပုညကို ခေါ်တော်မူ၍။ မင်းညီမင်းသားများထံသွားရောက်၍ခစားနှင့်။ ဆရာကြီးသွားရောက်ခစားလျှင်။ မင်းပြစ်မင်းဒဏ်သင့်လိမ့်မည်—အမိန့်တော်ရှိရာ။

စလေဆရာကြီး ဦးပုညသည်။ ဤသို့လျှောက်၏။ ကျွန်တော်မျိုး၏ ဇာတာစန်းလက်ပေါ်၌ နိစ်ပြဆိုက်နေရာ။ မင်းမော်ဆရာတော်ဘုရားကြီးက။ မင်းခစားမလုပ်ရဘူး။ လုပ်လျှင် မင်းပြစ်မင်းဒဏ် သင့်လိမ့်မည်ဟု အမိန့်တော် ရှိသောကြောင့်။ ဘုရားကျွန်တော်ကို။ ယနေ့ကစ၍ မင်းခစားအဖြစ်မှ ခွင့်လွှတ်တော်မူပါ။ သာသနာတော်တွင်းသို့ဝင်၍ နေလိုပါကြောင်းကို။ ခွင့်တောင်း လျှောက်ထား သံတော်ဦးတင်လေ၏။

အိမ်ရှေ့မင်းကြီးသည်။ ဤသို့မိန့်တော်မူ၏။ စလေဆရာကြီး။ တာဖြင့် ကောင်းပြီ။ အပါးတော်၌ အမှုတော်ကိုသာ ရိုးသားမြှောင့်မှန်စွာထမ်းဆောင်ပါ။ မင်းပြစ်မင်းဒဏ်ရှိလျှင်။ ကျွန်ုပ်ဘေးမဲ့ပေးတော်မူမည်ဟူ၍ မိန့်တော်မူပြီးလျှင်။ နောင်တော်မင်းတရားကြီးကိုသံတော်ဦးတင်၍။ စလေဆရာကြီး ဦးပုညကို။ မင်းပြစ်မင်းဒဏ်ရှိလျှင်ဘေးမဲ့ပေးတော်မူရန် အမိန့်တော်ပြန်ရလေ၏။

ထိုအခါ။ စလေဆရာကြီး ဦးပုညသည်။ မန္တလေး ရတနာပုံရွှေမြို့တော်ကြီး၌။ ပျိုကဗျာ။ လက်ာ
မော်ကွန်း။ ရတု။ ရကန်။ တောလာ။ ရေလာ။ သမိုင်းကျောက်စာသံပိုင်း။ သာသနာလျှောက်။ ချောင်း။
ငိုချင်းရှင်း။ ထုံးချင်းအမျိုးမျိုး။ တေးထပ်။ သဖြန်။ ခွေးချို။ အမျိုးမျိုးအရပ်ရပ်တို့ကို။ နောက်သားနောင်လာ
တို့။ စံတုစရာ ဥပမာနည်းနယရှိကြစေခြင်းအကျိုးငှါ။ များစွာရေးသားကုန်၏။

တနေ့သ၌။ သမီးတော်ထိပ်စုမြတ်ဘုရားကြီး၏ နားထွင်းမင်္ဂလာတော်တွင်။ ရတုပိုက်စုံ သုံးပုဒ်ကို
ရေးသားဆက်သွင်းရာ။ သမီးတော်ကိုဆက်ရမည်ဟု အမိန့်တော်ရှိ၍။ သမီးတော် ထိပ်စုမြတ်ဘုရားကို
ဆက်သရာ။ ငွေ သုံးဝိသာနှင့်။ ပုဆိုးအုပ်။ ခေါင်းပေါင်း ခါသာအုပ်များကို ဆုလာဘ်သနားတော်
မူလေ၏။

မင်းတရားကြီးဘုရားသည်။ နန်းမြေဘုံသာစံနန်းတော်သို့။ လယ်ထွန် မင်္ဂလာ ထွက်တော်မူ၍။
ကျောက်တော်ကြီးဘုရားများကို။ ဆွမ်းတော်ကြီးကပ်လှူပူဇော်တော်မူသော အခမ်းအနားများကို ပြု
လုပ်တော်မူလေ၏။

မြင်ကွန်းမင်းသား။ မြင်းခုံတိုင်မင်းသားတို့သည်လည်း။ နန်းမြေဘုံသာစံနန်းတော်၏တောင်ဘက်
မြောင်းမတော်နားတွင် ဝင်းတော်နှင့်စံနေတော်မူကြလေသည်။

စလေဆရာကြီးဦးပုညကို အမှတ်မဲ့ခေါ်၍။ မြင်ကွန်းမင်းသည်။ ဤသို့မိန့်တော်မူ၏။ ဆရာကြီးဦးပုည။
ကျွန်ုပ်တို့ညီနောင် ၂ ပါးကို။ မလွန်မြို့စား နောင်တော်က။ ခမည်းတော်ဘုရား။ ဘထွေးတော် အိမ်ရှေ့
ဘုရားတို့ကို ဂိုးတိုက်ပါသည်။ ကျွန်ုပ်တို့ညီနောင်သည်။ ရာဇဝတ်အပြစ်များ မြင်ပါသလားဟု မေးမြန်း
တော်မူ၍။ ဇာတာများကို ပြသတော်မူလေသည်။

ထိုအခါ။ ဆရာကြီး ဦးပုညသည် ဤသို့ဟောပြောလေ၏။ အရှင်မင်းသားများသည်။ စန်းလက်
ပေါ်၌။ တနင်္ဂနွေ။ စနေ။ သင်္ဂြိုဟ်စဉ်းစီးနင်းတော်မူ၍။ ယနေ့မှ (၇) ရက်အတွင်း။ မင်းပြစ်မင်းဒဏ် တောင်တန်း
နောင်အိမ်များကိုကျရန်ရှိပါသည်ဟု ဟောပြောလေ၏။

ထိုအခါ။ အိမ်ရှေ့မင်းကလည်း။ မြင်ကွန်းစားနှင့် မြင်းခုံတိုင်စား ညီအစ်ကိုတို့ကိုဖမ်းရန် စီမံကြံစည်
၍ ရှိတော်မူလေသည်။ မြင်ကွန်းမင်းသားသည်။ ဤသို့မိန့်တော်မူ၏။ ဆရာကြီး။ ကျွန်ုပ်တို့ညီနောင်ကို
စင်စစ်သူတို့ဖမ်း၍အပြစ်ပေးလိမ့်မည်။ သို့အတွက် ခမည်းတော်နှင့်။ ဘထွေးတော်တို့ကို ကျွန်ုပ်တို့လုပ်ကြံ
တော့မည်။ သေလျှင် မြေကြီး။ မသေလျှင် ရွှေထီး ဆိုသကဲ့သို့။ ကြံဆောင်လျှင် အောင်မြင်ပါမည်လောဟု
မိန့်တော်မူရာ။ ယနေ့နံနက် တချက်ဟီးကျော် ၅ မောင်းအချိန်တည့်တည့်ကစ၍။ ၂ ချက်တီးအတွင်း
ကြံစည်တော်မူလျှင်။ ရန်သူတော်များကို အောင်မြင်သော ကိန်းရှိပါသောကြောင့်။ သပြေပန်းများကို
ဆောင်၍ အောင်မြင်ရန်ရှိပါသည်ဟု လျှောက်လေ၏။

မြင်ကွန်းမြို့စားမင်းသားသည်။ ဆရာကြီးဟောပြောသည့်အတိုင်း အောင်မြင်လျှင်။ ဆရာကြီးကို
မင်းကြီး မဟာသက်တော်ရှည်ခွင့်နှင့် ဝန်ကြီးအရာကို ချီးမြှောက် သနားတော်မူမည်ဟု မိန့်တော်မူ၍
ဆုလာဘ်များစွာသနားတော်မူလေသည်။

ထိုအခါ။ စလေဆရာကြီးဦးပုညသည်။ ဗန်းမော်တိုက်သို့သွားရောက်ရှောင်ရှား၍နေလေ၏။

မြင်ကွန်းမြို့စား မင်းသားသည်။ ညီတော် မြင်းခုံတိုင်မင်းသား။ ဇော်ဂျီဗိုလ်။ ငမ္ဘီသီး အစရှိသော
အိမ်တော်သားများနှင့်တိုင်ပင်၍။ အရက်သေစာများကို သောက်စားပြီးလျှင်။ မလွန် မင်းသား။ စကု
မင်းသား။ ပြင်စည်မင်းသားတို့ထံသွား၍။ အိမ်ရှေ့ဘုရားကအခေါ်လွှတ်သောကြောင့်။ အမြန်စံနန်းတော်သို့
လာရောက်ခစားရန်။ တိုင်ပင်ရန်ရှိသည်ဟု အမိန့်တော်ပါကြောင်းကို။ အိမ်တော်သားမဟုတ် သူတ
ယောက်ကို ဆုတော်ငွေပေး၍ အခေါ်ခိုင်းစေတော်မူလေ၏။

မလွန်မင်းသား။ စကုမင်းသား။ ပြင်စည်မင်းသားတို့သည် ယုံကြည်တော်မူ၍ လိုက်လာပြီးလျှင်။
မြင်ကွန်းအိမ်တော်ရှေ့ ကျုံးထိပ်တွင်။ ဝန်းဝိုင်း၍ ထားနှင့်ခုတ်သတ် လုပ်ကြံကြသောကြောင့်။ မင်းသား
သုံးပါးတို့သည်။ ကံတော်ကုန်ရှာကြရလေ၏။

ထိုသို့လုပ်ကြံပြီးမှ၊ နန်းမြေဘုံသာစံနန်းတော်သို့၊ တောင်ပေါက်ကဝင်ပြီးလျှင်၊ မှူးတော် မတ်တော် များစွာတို့ကို ခုတ်သတ်လုပ်ကြံ၍၊ အိမ်ရှေ့မင်းကိုလည်း၊ ငြုသီးလုပ်ကြံ၍၊ နတ်ရွာစံတော်မူလေသည်။

ခမည်းတော်မင်းတရားကြီးဘုရားသည်၊ အဆောင်တော်မှတိမ်းရှောင်တော်မူ၍၊ ကင်းဝန်း၊ သူရဲဝန် တို့၊ တားမြစ် ဟန့်တားရာ၊ ကင်းဝန်း သူရဲဝန်တို့ကို ခုခံသည့်အတွင်း၊ မင်းတရားကြီးဘုရားသည် ချမ်းသာ လွတ်ကင်းတော်မူ၍၊ ငပိုက်ကြီးထမ်းပိုး၍ လိုက်ပြီးလျှင်၊ မြင်းတော်ကိုစီး၍ မန်းဦးတံခါးကဝင်တော်မူ၍၊ နန်းတော်သို့ ရောက်တော်မူလေသည်။

ထိုနေ့၊ မြင်ကွန်းမင်းသား၊ မြင်းခုံတိုင်မင်းသားတို့သည်၊ ဦးထိပ် တံခါးစောင့်၊ တံခါးမိုလ်တို့ကို တိုက်ခိုက်သတ်ဖြတ်၍၊ မြို့တွင်းသို့ဝင်ပြီးလျှင်၊ ရိုးတော်ယူတံခါးမိုလ်များကို ခုတ်သတ်လုပ်ကြံပြီးလျှင်၊ လွှတ်တော်ကိုစီးမိလေ၏။

မြေနန်းတော်က မင်းတရားကြီးကိုယ်တော်တိုင်ခုခံတိုက်ခိုက်တော်မူသည့်အတွင်း၊ အိမ်ရှေ့တော် တပ်က လိုက်လံတိုက်ခိုက်သောကြောင့်၊ မြင်ကွန်းစားတို့သည်၊ လွှတ်တော်မှဆင်းပြီးလျှင်၊ တောင်နန်း တော်ပေါက်မှထွက်၍ အနောက်ရုံးတော်သို့စီးမပြန်လေရာ၊ တပ်တော်များက ဝိုင်းဝန်းတိုက်ခိုက်ကြသော ကြောင့်၊ မြင်ကွန်းစားတို့မခံနိုင်၍၊ တောင်မျက်နှာ အနောက်ဆုံး၊ ရန်နှင့်တံခါးကထွက်သွား၍၊ ရောဝတီ ကေါ့ပိန်ဆိပ်ကမ်း၌ဆိုက်ကပ်ထားသော မြမန်းစကြာသင်္ဘောကိုစီး၍၊ အောက်မြို့သို့စုန်ပြေးလေ၏။

ထိုကဆက်၍၊ ပန်းတိမ်းမင်းသားတို့အရေးတော်နှင့် ဆက်သွယ်ပြီးလျှင်၊ တလလုံး အရေးတော် ဖြစ်ပွား၍၊ တိုင်းပြည်မငြိမ်မသက်ရှိရလေသည်။

ပတိမ်းမင်းသားတို့ အရေးတော် ပြီးငြိမ်းသောအခါ၊ လူဆိုးသူလွမ်းတို့ကို အားပေးပါဝင်သော သူတို့ကိုစစ်ကြော၍၊ အကုန် ကွပ်မျက်ဖမ်းဆီးခြင်းကိုပြုရလေသည်။

သက္ကရာဇ် (၁၂၂၀) ခု၊ ဒုတိယဝါဆိုလပြည့်ကျော် (၇) ရက်နေ့တွင်၊ မြင်ကွန်းစားတို့လုပ်ကြံ၍၊ နန်းမြေဘုံသာစံနန်းတော်တွင်၊ အိမ်ရှေ့မင်းကြီးနှင့်တကွ၊ မလွန်မင်းသား၊ စက္ကမင်းသား၊ ပြင်စည်မင်းသား တို့နှင့် မှူးတော်မတ်တော်ကြီးများ မြင်ကွန်းမင်း၏ ထားတွင်ပါကြရလေသည်။

ထိုအခါ၊ သူပုန်များကိုဘမ်း၍စစ်ကြောကြရာ၊ စလေဆရာကြီးဦးပုညအခါပေးကြောင်းကိုစစ်ချက် ထွက်၍ သိတော်မူရလေသည်။ စလေဆရာကြီးဦးပုညကို အရှာစေတော်မူရာ၊ မန်းမော်တိုက်တွင်တွေ့၍၊ ဖမ်းဆီးချည်နှောင်ပြီးလျှင်၊ အမိန့်တော်နှင့် မင်းတရားကြီးကိုယ်တော်တိုင် စစ်ကြောမေးမြန်းလေ၏။

ဆရာမောင်ပုည၊ မောင်မင်းသည်၊ ငါ၏ကျေးဇူးတော်ကို မထောက်မမြော်၊ မြင်ကွန်းစား၏ ကြံတော် ကြံဘက်သူပုန်ဖြစ်ကြောင်းနှင့်၊ ကြားသိတော်မူရသည်။ မောင်မင်းသည် မှန်ရာကို သံတော်ဦး တင်ရမည်ဟု အမိန့်တော်ရှိလေ၏။

ဦးပုညသည်၊ ဘုရားရွှေဘုန်းတော်မြတ်ကြောင့်၊ မြင်ကွန်းစား မြင်းခုံတိုင်စားတို့၏ ထားကိုလည်း ဘုရားကျွန်တော် ကြောက်ပါ၏။ အရှင် ထားတော်ကိုလည်း ကြောက်လှပါ၏။ သို့သော် ရွှေဘုန်းတော် ရှင်မှူး၊ သာသနာပြု မင်းကောင်းမင်းမြတ်ဖြစ်သည်တကြောင်း၊ ပဉ္စမသင်္ဂါယနာတင်ရန် ကိစ္စအကြောင်း များကြောင့်၊ မြင့်မိုရ်ထိပ်က၊ သိကြား စက်လက်နက်နှင့် ဝိုင်းဝန်း၍ပစ်ခတ်သော်လည်း၊ ရွှေဘုန်းတော် ကြီးလှ၍၊ ရန်သူများမအောင်နိုင်ကြောင်းကို၊ ဘုရားကျွန်တော်အတတ်ပင်သိ၍၊ ထား ၂ စင်းအောက်က လွှတ်ကင်းအောင်များကို၊ အလိုတော်ကျ သားတော်များသဘောသို့ လိုက်လျော၍၊ ဟောပြော တင် ဆက်ရပါကြောင်း၊ ကံတော်ကုန်သောအရှင်များမှာလည်း၊ ကောင်းကင်ရေမြေသို့ ပြေးပုန်းသော်လည်း မလွတ်နိုင်ရာ၊ ဝိပါက်ကံရှိသမျှပေါ်လာသော အရေးတော်ကြီးဖြစ်ပါ၍၊ ရွှေဉာဏ်တော်နှင့် ရှုစားတော် မူရန် သံတော်ဦးတင်ပုံ၊ သည်ဘုရားဟုလျှောက်ထားလေ၏။

ဘုရားကျွန်တော်မျိုးမှာလည်း၊ ဘွားစကာလကပင်၊ ကြက်သွန်ခင်းဆရာတော်၊ မှုရွေးဆရာတော် ဘုရားကြီးများက၊ ဥပပစ္ဆေဒကာ၊ ကံပါသည်ဟု မိန့်တော်မူဘူးပါကြောင်း၊ မန်းမော်ဆရာတော်ဘုရားကြီး ကလည်း၊ မင်းခမားလုပ်လျှင်၊ မင်းတေး မင်းဒဏ်သင့်လိမ့်မည်ဟု မိန့်တော်မူဘူးပါကြောင်း၊ အရှင်မင်း

မြတ်နှင့် ညီတော် အိမ်ရှေ့ဘုရားကြီးက။ ဘုရားကျွန်တော်၏အသက်ကို ဘေးမဲ့ပေးတော်မူသည်ဖြစ်၍။ မင်းတို့နှုတ်ထွက်၊ ဆင်စွယ်မျိုး၊ မိုးသီးကြီးစက်သို့ ဆိုသည့်အတိုင်း၊ ချမ်းသာရာကို ရလိမ့်မည်သဘောဖြင့် ဟောပြောမိပါကြောင်းနှင့် သံတော်ဦးတင်လေ၏။

ထိုအခါ။ မင်းတရားကြီးက မိန့်တော်မူသည်မှာ။ မောင်မင်းသည်။ မြင်ကွန်းစားတို့ကို ဟောပြောလျှင်။ မြင်ကွန်းစားက။ ဘယ်သို့အာမခံသလဲဟု မေးတော်မူပြန်ရာ။ ဆရာကြီး။ ကျွန်ုပ် ရှင်ဘုရင်ဖြစ်လျှင် ဆရာကြီးကို။ ပလိပ်စား ဦးမြတ်ကဲ့သို့ ချီးမြှောက်ပြီးလျှင်။ မင်းကြီးမဟာသက်တော်ရှည်ခံနှင့်။ သူကောင်းပြုတော်မူ၍။ ဝန်ကြီးခန့်မည်ဟု မိန့်ပါကြောင်းကို သံတော်ဦးတင်လေ၏။

မင်းတရားကြီးက။ မောင်ပုည။ မောင်မင်းသည်။ ရှေးကုသိုလ်ရှိလျှင်။ ငါ့မင်းမြတ်ကပင်။ မင်းကြီး မဟာသက်တော်ရှည်ခံနှင့် ဝန်ကြီးမခန့်နိုင်ဘူးလားဟု မေးတော်မူ၍။ မောင်မင်းသည်။ လူဆိုးလူသွမ်းတို့ကို အားပေးသောသူဖြစ်သည်ဟု မိန့်တော်မူပြီးလျှင်။ ရှေ့မြို့တော်ဝန် ယင်းတော်မြို့စား ဦးသာအိုးထံသို့ အကျယ်ချုပ်အပ်ထားလေ၏။ နောင် စိတ်ကြေးတော်မူလျှင်။ သူကောင်းပြုတော်မူမည်ဟု ရည်စူးတော်မူလေသည်။

ရှေ့မြို့တော်ဝန် ဦးသာအိုးသည်။ စလေဆရာကြီးဦးပုညကို မလိုသောသဘောဖြင့်။ မိမိဝင်းထဲ၌ အိမ်တဆောင်တွင် အကျယ်ချုပ်ထားလေ၏။

မြို့ဝန်မရှိသောအခါ။ ဦးသာအိုး၏မယားငယ်မိန်းမများက။ ဗေဒင်မေးမြန်းခြင်းပြုကြလေ၏။ အချို့မယားငယ်မိန်းမများကလည်း။ တေးထပ်သီချင်းအရေးခိုင်းကြလေသည်။ ထိုသို့ ဦးပုညကို သနားမေတ္တာရှိကြသော မယားငယ်တို့ကလည်း။ ထမင်းကောင်း။ ဟင်းကောင်းနှင့် ပေး၍ ကျွေးမွေးကြခြင်း။ အချို့မယားငယ်များကလည်း။ ဆေးလိပ်။ မုန့်ပဲသရေစာများ ပေးကမ်းပို့သကြလေသည်။ အချို့ မယားငယ်များကလည်း။ ဆရာကြီး ဦးပုညနှင့်တဘက်ရည်ငန်ပြုကြသလိုထင်ကြလေ၏။

ထိုသို့ နှစ်လ-သုံးလရှိသောအခါ။ မနာလိုသောမိန်းမများက။ မြို့ဝန်မင်းကို ဂုံးတိုက်ပြောဆိုကြလေသည်။

မြို့ဝန် ဦးသာအိုးသည်။ စုံစမ်းထောက်လှမ်း၍ အမှတ်မဲ့ကြည့်ရှုသည်တွင်။ သာမာန်တို့ကို။ မာဂန္ဓိဂုံးဘိုက်သကဲ့သို့။ မယားငယ် ၂ ယောက်များနှင့် ထင်ရှားသလို မူရာ ဓာယာ မသင်္ကာခြင်းဖြစ်သည်ကို အတတ်တွေးထင်မိသောကြောင့်။ မြို့ဝန် ဦးသာအိုးသည်။ ဤသို့ကြံလေ၏။ မောင်ပုညသည်။ မင်းတရားကြီးဘုရား၏ သူပုန်ရန်သူတော် မြင်ကွန်းစားဘို့အား။ လိုက်စားအားပေးသောသူဖြစ်၍။ ကျေးဇူးသစ္စာတော်ကိုလည်း။ မစောင့်မရှောက်။ ငါ၏မယားများနှင့်လည်း။ ရည်ငန်ခြင်း အကြံအစည် များပြား၍။ မတရားကျင့်သူဖြစ်သည်ဟူ၍ပင် အထင်မှားသည်နှင့်။ သတ်၍ပစ်ရန်ကြံစည်လေ၏။

စလေဆရာကြီးဦးပုညသည်။ မြို့ဝန်ကတော်ကြီးကို။ ဤသို့ပြော၏။ ကျွန်ုပ်သည်။ မင်းစားလုပ်မိသည့်အတွက်။ အရှင် ၂ ပါးက။ ဘေးမဲ့ပေးရှာတော်မူသော်လည်း။ ကျွန်ုပ်၏ဥပပစ္စေဒက ကံသည်။ ယနေ့မှ ၃-၄ရက်အတွင်း အခွင့်ရတော့မည်ဟု။ မြို့ဝန်ကတော်ကြီးအား အလုံးစုံပြန်ကြားပြောဆိုလေ၏။

မြို့ဝန် ဦးသာအိုးသည်။ မယားငယ်များကို ဤသို့ပြောဆိုလေ၏။ နင်တို့သည် မောင်ပုညထံသို့ သွားရောက်၍။ ဗေဒင်မေးခြင်း။ အစားအသောက် ကျွေးမွေးခြင်းကိုပြုကြလျှင်။ နင်တို့ကို သတ်၍ပစ်မည်ဟု မြိမ်းမောင်းလေ၏။

နောက် နှစ်ရက် သုံးရက် ကြာသောအခါ။ ထောင်က အာဏာသား ငါးယောက်ကို ခေါ်၍။ နင်တို့သည် မောင်ပုညကို။ နက်ဖြန်ညအခါ။ ဣကင်းသို့ ချည်နှောင် ယူသွားပြီးလျှင်။ ဧရာဝတီမြစ်ထဲသို့။ ချည်နှောင်ထုပ်ပိုး၍။ အိုးတွင် သံအပြည့်ထည့်၍ အထုပ်တွင်ဆွဲပြီးလျှင်။ လှေနှင့်တင်၍ ရေလယ်တွင် သံအိုးဆွဲ၍ အရှင်လိုက်ချရမည်ဟု ပြောဆိုစေခိုင်းလေ၏။

အာဏာသား ငါးယောက်တို့လည်း။ မြို့ဝန် ဦးသာအိုးစေခိုင်းသည့်အတိုင်း။ ဣကင်းသို့ ဦးပုညကို ခေါ်ဆောင်သွားပြီးလျှင်။ လှေငယ်နှင့် ဧရာဝတီမြစ်ရေလယ်သို့ယူ၍။ လေးဘက်တုပ်ပြီးလျှင်။ အဝတ်နှင့်

ထုပ်စည်းချည်နှောင်၍၊အိုးကြီးတလုံး၌ သဲအပြည့်ထည့်ပြီးလျှင်၊လုံစွာပိတ်ဆို့ပြီးမှ။ အိုးလည်ပင်း၌ ကြိုးဆွဲ၍၊မြစ်လယ်တွင် စလေဆရာကြီး ဦးပုညကို၊ရေသို့ပစ်ချ၍သတ်ကြလေ၏။

မင်းတရားကြီးဘုရားလည်း။ ငါးလလောက်ကြာသောအခါ။ကြေးတော်မူ၍၊မောင်ပုညကိုလွှတ်ရမည်ဟု။ရန်ချောင်းမင်းကြီး။ပုခန်းမင်းကြီးတို့ကို အမိန့်တော်ရှိလေ၏။

မြို့ဝန် ဦးသာအိုးလည်း။ အမိန့်တော်နှင့် သူခိုး ထားပြ အဖမ်း သွားသော အခါဖြစ်သည်နှင့်။ မြို့ဝန်အိမ်သို့ လွှတ်တော်က။ဦးပုည ရှိ မရှိ။ စုံစမ်းစေလွှတ်ရာ။ဦးပုညကို များစွာကြည်ညိုသောမိန်းမများက။အကင်းရောဝတိဖြစ်တွင်၊အာဏာသားများကို စေလွှတ်၍၊ဥအခါအပ်လိုက်ပြီးလျှင်၊မြို့ဝန်မင်း သတ်ပစ်စေကြောင်းများကို ကုန်စင်အောင် ပြောကြားလိုက်သောကြောင့်။ လွှတ်တော်မင်းကြီးများ သိကြရလေသည်။

နံနက်ညီလာခံတွင်၊မင်းတရားကြီးဘုရားက။မောင်ပုညမလွှတ်သေးဘူးလား မင်းကြီးများလို့မေးတော်မူသော အခါ။ ဘုန်းဘော်ကြီးလှသောဘုရား။ မောင်ပုညကို မောင်သာအိုး သတ်ပစ်ပါကြောင်း သံတော်ဦးတင်ကြလေ၏။

မင်းတရားကြီးဘုရားသည်။ ဟယ် လူကို ခွေးသတ်ပစ်ပြီဟု မိန့်တော် မူပြီးလျှင်။ မောင်ပုညကို ငါနှင့် ညီတော် အိမ်ရှေ့မင်းတို့က ဘေးခွဲ ပေးပြီးဖြစ်သည်။ ရာဇဝတ် ကြီးသော်လည်း ငါ မသတ်။ မောင်သာအိုးကို အကျယ်ချုပ်မျှသာ ငါခေတ္တအပ်ထားသည်။မောင်သာအိုးသည် ခွေးထက်မိုက်သော သတ္တဝါဖြစ်သည်ဟု မိန့်တော်မူလေ၏။

မောင်ပုညသည်။ငါ၏ခမည်းတော်မင်းတရားကြီး မင်္ဂလာအိမ်တော်၌ စံနေတော်မူစဉ်ပင်။ ငယ်ရွယ်သောအခါက။ ချစ်မြတ် လေးတော်မူ၍ ချီးမြှောက် သနားတော်မူသောသူပင်ဖြစ်၍၊ငါ ဘယ်အခါမှ အပြစ်ပေးတော်မမူဟု မိန့်တော်မူလေ၏။

မြို့ဝန်မောင်သာအိုးကိုလည်း တမြို့လုံးမှန်းကြလေ၏။စလေဆရာကြီးဦးပုညသည်။ဗန်းမော် ဆရာတော်ဘုရားကြီးက။မင်းခစားပြုလုပ်လျှင်၊မင်းပြစ်မင်းဒဏ်သင့်လိမ့်မည် အမိန့်တော်ရှိသည်ကို သတိရှိပါလျက်နှင့်။ပိပက်မကင်း ဖြစ်ရှာလေသည်။မြို့ဝန်ကြီးကတော်ကိုပင်။ကျွန်ုပ်၏ဥပပစ္စေဒက ကံသည်။ ၃-၄ ရက်အတွင်း။အခွင့် ရတော့မည်ဟု ပြောဆိုသော စကားသည်လည်း။ မှန်ကန်လှသည်ဖြစ်၍။ စလေဆရာကြီးဦးပုညသည်။ပရပက္ခမ သူတပါးလုံ့လပရောဂ်ဖြင့်။မရဏနိုင်ငံသို့လိုက်ပါရလေသည်။

ဆရာကြီးဦးပုညသည်။သက္ကရာဇ် (၁၁၇၄) ခုနှစ်တွင် ဘွားမြင်၍။ (၁၂၂၀) ခုနှစ် တပေါင်းလတွင် (၅၄) နှစ်သို့ အသက်ရောက်ရှိသောအခါ။ သင်္ခါရတရားမှ မလွန်နိုင်၍။ရန်သူတို့၏လက်တွင် အနိစ္စသဘောသို့ ရွှေ့လျော့ပြောင်းသွားရှာရလေသည်။

ဤကား ဦးပုညအတ္ထုပ္ပတ္တိပြီး၏။

ဤဦးပုညအတ္ထုပ္ပတ္တိကို။လယ်ဝန်သံတော်ဆင့် ဆောမြို့စား ငစဉ်ကူးမြို့ဝန်မင်း ဦးစီသည်။ ဦးပုည၏ အကြောင်းကို။ပဌမကစ၍။မန္တလေးမြို့တည်သည်တိုင်အောင်။ မှတ်သားပြောဆိုသော စာတမ်းများကို မှတ်သားမိခြင်းဖြစ်၍။ကျွန်ုပ်ဆရာအိုသည်လည်း။လယ်ဝန်မင်း၏ တူအရင်းဖြစ်ပေသည်။

၎င်းနောက်။ ၃၀-ခုနှစ်။ မင်းတရားကြီးလက်ထက်။ လွှတ်တော် အမှာတော်ရေး စာရေးတော်ခေါင်း ဦးသာအောင်ထံတွင်။ပညာသင်ကြားနေထိုင်စဉ်။နိုင်ငံခြားဝန်ထောက်။မြောင်လှမြို့စားမင်းသည် ဦးပုညအကြောင်းကို အစက-အဆုံးတိုင် ပြောဘူးသည်နှင့်အညီ။စိကုံးရေးသားရလေသည်။

ကျောက်ဆည်မြို့၊ ဂန္တနုဗဟုဿုတအသင်းဥက္ကဋ္ဌ ကျွန်ုပ်တို့။ စာစီ စာကုံး ငါးနှစ် နည်းခံဘူးသူ တပည့်ရင်း မောင်ချစ်မောင်သည်။ ကျောက်ဆည်နယ်ပိုင်ရုံးစာရေးအဖြစ်ကတင်ကြိုက်။ ဦးပုညအထွေထွေကို ရေးသားရန်တောင်းပန်ဘူးလေသည်။ ထိုအခါ မသိသာသေး၍မရေးရ။

၎င်းနောက်။ မောင်ချစ်မောင်သည်။ ဘိုးလစ်အရေးပိုင်ရုံး စာရေးကြီးအဖြစ်သို့ တဖန်ရောက်သော အခါ တောင်းပန်၍မရေးဖြစ်လေ။

၎င်းနောက် ကျောက်ဆည်တွင်။ အသင်းမြို့အုပ်ဖြစ်သောအခါလည်း။ တောင်းပန်ပြန်၍မရေးဖြစ်။

မန္တလေးမြောက်ပိုင်း။ အသင်းဝန်ထောက်ဖြစ်သောအခါ။ ဦးပုညအထွေထွေကိုရေးရန် မန္တလေး သတင်းစာတိုက်တွင် လာရောက်ဘောင်းပန်သောအခါ။ ရေးမည်ဟုဝန်ခံလိုက်ရပေသည်။ ရေး၍ပြီးလျှင်။ ဧ ၁၀၀—ဆူပူဇော်ပါမည် ဝန်ခံသွားလေသည်။

မောင်ချစ်မောင် ခေတ္တခဏ ထုတ်ယူသွားသော နန်းသုံး ကဗျာလင်္ကာ စာအုပ်ကြီး ၂ အုပ်။ စာအုပ်လတ် တအုပ်။ ပါပဟိန်ဇာတ်အုပ်များကို။ ကျွန်ုပ်တို့က ခေတ္တခဏထုတ်ယူသွားရာ။ ရန်ကုန်မြို့ သုဘေသနအသင်းတိုက်မှာရှိကြောင်း ကြားသိရလေသည်။

ဆရာအို။

စာပြင်ဆရာ အယ်ဒီတာ။

ဂန္တနုဗဟုဿုတအသင်း။

အကျိုးဆောင်ဆရာကြီး။

The Tamarined Tree etc.

By U SHAN.*

မကျည်းပင်၏ အသုံးဝင်ခြင်း။

သုတေသန၊ ပုဂ္ဂိုလ်ဟူ၊ မုချခေါ်တွင်၊ ပညာရှင်အများ၊ ပဏ္ဍိတအသင်းသားတို့သည်၊ ညာဏ်ရှေ့
သွားပုဗ္ဗင်္ဂ၊ အရင်းခံပဓာနတို့ဖြင့်၊ မြို့ရွာ၊ အထက်အောက်တိုင်းနိုင်ငံသို့၊ စေတမန်သတင်း၊ ကြော်ငြာ
စာထည့်ခါသွင်းပြီးလျှင်၊ လိုရင်းဆန္ဒ၊ ပြည့်စုံရအောင်၊ သိပ္ပံပညာ၊ ဌာနသုတေသနတို့ကို၊ ရှာဖွေရိုး၊
သိလိုမှုဖြင့်၊ ပေးဆုကြီးငယ်၊ ရည်ရွယ်ချက်အသွယ်သွယ်တို့နှင့်တကွ၊ အလွယ်တည့်သွင်း၊ သူရိယခေါ်
ထိုသတင်းဝယ်၊ အလျှင်းတွေ့ကျုံ့ရသည်တွင်၊ မကျည်းပင်၏အထွေထွေ၊ ချဉ်ပေါင်ပင်အရပ်နှင့်၊ ရော
စပ်ဆူးပုတ်သုံးပါးစုံပင်သရုပ်တို့ကို၊ ရေးထုတ်စီစဉ်၊ သုံးဝင်အခမ်း၊ ရှာသိလိုက်ပွင့်သောမာလာပန်း
တို့ကိုညာဏ်စွမ်းရှိသမျှ ရေးလိုက်ပဟူ၊ သုတေသနပုဂ္ဂလိက၊ အဘိယာစကစာအလွှာကို၊ အာသာ
ဆန္ဒပြည့်စုံရန်ကိစ္စဖြင့်၊ နာနာပကရဏ၊ ဓာတ်အစုပ်၊ သင်္ခေပအကျဉ်းချုပ်ပြီးလျှင် ရေးထုတ်ဖော်ပြ
လိုက်ပါအံ့သည်။ ။ နာနာပပုဂ္ဂိုလ်ကြော၊ ကျမ်းလာမိန့်မြွက်၊ ဓမ္မစက်အချစ်၊ ဣတ္ထိအလော၊
အကြောင်းကိုရှာလိုက်သော်၊ အာဒိကပ္ပ၊ အစဉ်းစွာ၊ ကပ်ကမ္ဘာတွင်၊ ဓမ္မတာသဘာဝ၊ ဝိဝေဒိဟူ၊
တည်ရအခြေ၊ ဓာတ်လေးထွေတို့သည်၊ ရေမြေတောတောင်၊ မြိုင်ချောင်မွေချာ၊ ဟေမဝါနှင့်၊ သေလာ
ရပ်ဆို၊ မြစ်ကြီးမြစ်ငယ်၊ အသွယ်သွယ်အဝင်၊ အာဒိစလျက်၊ နာမပညတ်၊ သမုတ်အပ်သည်၊ ရုပ်
ကလာပ်ထင်ထင်၊ ကောင်းကင်အတော၊ အာကာသပရိစ္ဆေဒ၊ လေးဝသောဓာတ်၊ ကြီးကိုအစည်မှီး
သဖြင့်၊ အသီးအသီးပေါ်ထွက် ပေါက်ရောက်ဖြစ်လာကြဟန်မှာ၊ ။ စန္ဒီမသုဒ္ဓိယာနံပန၊ ပါတုတူ
တဒိဝသေ၊ သိန္နရုံစက္ကဝါဠဟေမဝန္တပပတ၊ အပုဗ္ဗအစရိမံ၊ ပဂ္ဂုဏပဏ္ဍမဒိဝသေယေဝပါ
တုဘဝန္တိ၊ သိသုဗ္ဗိမံ၊ ကျမ်းဓမ္မစက်နှင့်၊ စခမ်းမပျက်လျော်ညီစွာ၊ ကမ္ဘာတည်စ၊ ရှေးမဆွဲ၊ ပဂ္ဂုဏ
တွင်ရှိတပေါင်းလပြည့်ချိန်မှ၊ မိန့်ရာသီအစတွင်၊ ဝိဝေဒိသညာ၊ ကပ်ကမ္ဘာဟူ၊ ဓာတ်မှာအာပေါ၊ ဆင်း
သက်လျှောပြီးလျှင်၊ လောကဝါတ်အခြေအနေ၊ အာပေါရေတို့သည်၊ လူနေရာဌာနသို့အရောက်
တွင်၊ နောက်နောက်ကထုံးစံအစဉ်၊ မနုဿလုပေတခွင်မှာ၊ ရေပြင်တာကျယ်ကြီးယူဇနာပေါင်း
လေးထောင်၊ ။ မြိုင်ချောင်မွေချာ၊ တောင်သေလာတို့နှင့်၊ ဟေမဝါတောကြီးအတိ၊ ယူဇနာ
ပေါင်း ၃ ထောင်၊ ကုန်းပေါင်မြေပြင်၊ အခြေတင်လျက်၊ လူစင်လူသားတို့၏နေရပ်ဌာန၊ ယူဇနာ
ပေါင်း ၃ ထောင်၊ အခေါင်ရဝေ၊ တောင်သပြေဝယ်၊ လူနေတောရ၊ တသောင်းမျှဟူ၊ ကုယ်လှပတ်
ဝန်း၊ စမ္ပဒိတောင်နယ်ကျွန်းတွင်၊ ပေါ်ထွန်းရောက်လာ၊ သယံဇာတဖြင့်၊ ကမ္ဘာမျိုးစေ့ပျက် မရွှေ
ဘဲ၊ ဆက်၍ဆက်၍ဖြစ်ထွန်းပေါ်ပေါက်ရောက်လာကြပေကုန်သောတော ၃ ထောင်အနွယ်ဝင်၊
များစွာသောချုံသစ်ပင်အမျိုးမျိုးတို့ကို၊ ရှေးရိုးပညတ်၊ သမုတ်အပ်သည်မှာ၊ ။ မူလဗီဇီ၊ အ
မြစ်အညှမ်းငှင်း၊ ဖလဗီဇီ၊ အသီးအစေ့မျိုးငှင်း၊ အဂ္ဂဗီဇီ၊ အညွန့်အညွှက်မျိုးငှင်း၊ ပဗ္ဗဗီဇီ၊ အဆစ်အ
ဖုမျိုးကိုငှင်း၊ ဗီဇီဗီဇီ၊ ပင်စည်ကိုင်းခက်မျိုးငှင်းဟူ၊ ရှေးရိုးလမ်းတွင်၊ မကျည်းပင်နှင့်၊ ချဉ်ပေါင်ပင်
ဆူးပုတ်သုံးပါးစုံပင်သုံးမျိုးတို့၏သရုပ်ကို၊ ဖော်ထုတ်စီစဉ်၊ အသုံးကျအသုံးဝင်သည်ကို၊ စီရင်ခါအကြံ
လင်းပြီးလျှင်၊ မဂ္ဂဇင်းထုတ်လိုက်ပါဦးအံ့၊ ထိုသစ်ပင်သုံးမျိုးတို့၏အနက်တွင်၊ စိဉ္ဇရုကွ၊ နာမခေါ်
တွင် မကျည်းပင်၏အသုံးဝင်ဟန်၊ အဘိဓာန်ကား၊ လောဟိတစိဉ္ဇ၊ မကျည်းအနီပင်၊ သေတစိဉ္ဇ၊
မကျည်းအဖြူပင်၊ ထိုသစ်ပင်မကျည်းအစစ်တို့၏ အနှစ်သွာရအသုံးကျ အသုံးဝင်ဟန်မှာ၊ ။ အင်
မတန်ခိုင်မာသောသံတိုင်သံချောင်းကြီးတို့၏ အလားကဲ့သို့မချားတူမျှဂုဏ်ထူးကို ရသောကြောင့်၊
လောကလူရွာအုအိအိတွင်၊ လိုရာကိုရွေးလမ်း၊ မကျည်းနှစ်ပင်တို့၏အနှစ်ကို၊ ပြေပြစ်သန့်ရှင်းလွှ

* The prize-winning Essay in Competition C.

THE TAMARINED TREE ETC.

စက်တွင် တင်ခါသွင်ပြီးလျှင်။ ပင်ရင်းချောလမ်း။ မန်ကျည်းနှစ်တို့ကို။ ကျွန်းသစ်၏အလား။ ပျဉ်ပြားကြီး
 ငယ်။ သေးသွယ်လက်မ။ ဟံရအောင်တိုက်ခါချပြီးနေ။ ဂေဟကျောင်းဆောင်။ ပျဉ်တောင်အခင်း။
 နှစ်ကျွန်းခိုင်ခိုင်။ သည်တိုင်ထုပ်လျောက်။ ဖြတ်တောက်မိုးကာ။ အိမ်မှာထိုနည်း။ ပင်မကျည်းတို့၏။
 နှစ်ကြီးခိုင်မာ။ ပျဉ်းပျားပေါင်းသစ်မျိုးဟာကို။ လိုရာမှာအသုံးပြုကြပါပေသည်လည်းတနည်း။ ။ မန်
 ကျည်း၏အနှစ်။ သစ်မျိုးခိုင်လုံ။ အနှစ်စုံတို့ကို။ ပွတ်စုံစက်တွင်း။ ယူငင်ခါသွင်ပြီးလျှင်။ တူရွှင်ရှိ။ ထား
 မောက်ရိုး။ ဆောက်ရိုးသေးသေး။ တုတ်တောင်ဝေးလက်ရိုက်။ အလိုက်သင့်သွင်းခုတ်။ တင်းပုတ်နှင့်
 တူငယ်။ လက်တောကြီးလက်တောငယ်တို့ပါ။ ယူသယ်ခါဖန်ညှိနိုင်ပြီးလျှင်။ ဉာဏ်ရှိတိုင်းအသုံးပြု
 ကြရပေသည်လည်းတနည်း။ ။ မကျည်းပင်တို့၏အကာအသားခိုင်ခန့်သောအဖြစ်များတို့နှင့်။ ကိုင်း
 ဖျားကိုင်းရင်း။ တပင်လုံးမကျန်ကြွင်းရအောင်။ ထင်းတို့၏အရာဌာန။ အသုံးကျအသုံးဝင်။ မြစ်စင်ရေ
 ကြော။ မီးသင်္ဘောဘခြား။ မီးရထားတမျိုး။ ရေခွေးအိုးတို့မှာ။ မီးထိုးဘို့အောင်။ မကျည်းပင်တို့၏
 အခါကအပွေးတို့ကိုမူကား။ မြေသောသီတတေဇာတတ်တို့၏တမိုးကြောင့်။ ဆေးမျိုးဝိဇ္ဇာလုပ်
 ရပ်လမ်းထိုပညာတူ။ သို့ ဘက်စီရင်လျက်။ ဘင်ကိုပြာချ။ အလုံးစုံကြေမှုသဖြင့်ကြိုမူလစင်စစ်။ မကျည်း
 မြစ်တို့မှာဓာတ်စပ်ထိ။ အားပြည့်ညီသောကြောင့်အလီလီသောဆေးမျိုး၌အသုံးဝင်ကြလေသည်။
 ညွှန်ရှင်ဖူးခက်။ မကျည်းပင်၏အပွင့်အရွက်တို့ကိုမူကား။ လက်သုတ်ဟင်းလျှော်ချက်ခါဖြင့်များပြင်
 စွာသုံးတိုက်။ သည်းချေကြိုက်ဟုသမိုက်ထင်စွာ။ ဆေးဓာတ်စာတို့၌ လိုရာကိုအသုံးချကြလေပြီ။
 စိဉ္စ၊ ဒီဇ၊ နာမခေါ်လေ့မကျည်းစေတို့မှာသိမ်မွေ့ဆီမွေ့သောအရသာ။ ဓာတ်မှာပင်ပင်။ ကမလီကာ
 ဟာရသတော။ ဝမ်းသက်လျှောက်။ သင့်သောအရသာ။ ဓာတ်မှာအချပ်။ မကျည်းသီးမှည့်တို့၏သ
 ရုပ်မှာအပုပ်အစပ်။ ကြေမှုတတ်သောကြောင့်။ ဆေးမြတ်အကျော်။ ယာကောလိကအဖျော်ပုရဟန်း
 တော်အရှင်များသုံးစားလေအပ်။ သည်းချေဓာတ်ကိုလည်းဖြောင့်မတ်ကြည်လင်။ ဝမ်းမီးကိုလည်း
 ရှင်စေသည်။ ။ ထိုပြင်တနည်း။ မကျည်းသီးကာ။ ကုတ်ဟီးချောင်းဆိုး။ သွေးလေဆိုးတို့ကိုပါယ်ချို
 နှိမ်နှင်းနိုင်လေသည်ဟု။ ဓာတုရသကျမ်းဂံ၌ပြသည်မှာ။ စိဉ္စ၊ ဇလံ။ မကျည်းသီးသည်။ လေးဟိတဝါး
 တော။ သွေးလေတို့ကို။ လောပေတီးကြစေတတ်၏။ ကာသာရာဂါ။ ချောင်ဆိုးရာဂါ။ ဝေဇနာတို့
 ကိုလည်း။ ပဟတာ။ ပယ်ဖျောက်နိုင်၏။ ဓာတုရသ။ ကျမ်းပြုအလို။ ထိုပြင်တခမ်း။ မကျည်းသီးမှည့်အ
 စွမ်းကား။ ချက်ခမ်းပြုတ်ခမ်း။ စားသောက်ခမ်းနှင့်။ လုပ်ငန်းတမျိုး။ ဆေးရိုးနယ်စပ်။ ချဉ်းတတ်ချဉ်သီး။
 စပ်ဟတ်နည်းတို့မှာ။ အသီးသီးအခမ်းခမ်း။ ဓာတ်ပေးခမ်းတို့နှင့်ဆေးခမ်းဌာန။ အလိုရှိတိုင်းအသုံး
 ကျသည်ဟု။ မုချဆိုနိုင်စွင့်ရှိသည်လည်းတချက်။ မကျည်းရွက်အရင့်အကျမ်းတို့ကိုလည်း။ သလိပ်
 ငန်းချောင်းဆိုးတို့အတွက်။ ရက်ဆားဖေ။ သွေးလေလုံးတို့ကိုလည်း။ ပိန်ချုံးပါယ်ဖက်။ ဝါယော
 ဓာတ်တို့ကိုသက်စေသည်။ မန်ကျည်းရွက်အကျမ်း။ ဟောင်းနွမ်းဆွေးမြေ့။ ဟူသရွေ့တို့ကို။ ပေါင်း၍
 ယူငင်ပြီးလျှင်ကွမ်းခြံပန်းမန်စိုက်ပျိုး။ မကျည်းရွက်ကြမ်းအဆွေးတို့၏ တမိုးကြောင့်။ အားတိုးအား
 ကြီးအသီးနှင့်အရွက်ကိုင်းခက်စေဆာ။ စိုက်ပျိုးမှုအရာရာတို့၌။ များစွာပင်အသုံးပြုကြလေသည်
 လည်းတဝ။ ။ ထိုမကျည်းရွက်ကြမ်းဟူသမျှတို့ကို။ အရသိမ်းကြီး။ စုခါရုံးပြီးလျှင် ခေါင်းအုံးနှင့်မွေ
 ရာ။ ကမ္ဘလာခင်းနီး။ ဖုမတီးနှင့်မြင်းကုန်းနီးတဝ။ ပြုလုပ်ရန်သင့်လျော်လှသည်ပြင်။ ပတ္တဒကတ္တအမည်
 မကျည်းရွက်အကြမ်းရည်တို့ကို။ ကြည်ကြည်သတ္တံ။ ကျောက်ချဉ်နှင့်ရောစပ်ခါကုရလျှင်။ စက္ခုရော
 ဂါပျောက်ကင်းကွာသည်ဟု။ များစွာချီးနှင်းထိုက်ပါပေသည်လည်းအဝဝ။ ကျည်းပင်၏ဂုဏ်တူးကို
 ပြရလျှင်။ အန္တိမအလုံး။ တယ်နံရာအခါမှမကုမဆုံးသေကြောင့်။ နိဂုံးသင်္ခေပျိုး၍ပြပိန်။ စိဉ္စ၊ တွင်
 ပြီး။ ထိုမန်ကျည်းကား။ ပင်ကြီးပင်စည်းဖြူတဝ။ နှစ်မျိုးရသဖြင့်။ ထင်းကတခမ်း။ ဆေးခမ်းတခြား။ စား
 သုံးချက်ပြုတ်။ မီးသွေးဖုတ်နှင့်။ ဆောက်ပုတ်တမျိုး။ ထားရိုးတောင်ဝေး။ ကိုင်းသေးကိုင်းကြီး။ ထင်းမီး
 တသွန်။ အခွန်အပွေး။ လုပ်ငန်းလုပ်ရပ်။ ဆေးဓာတ်အရာရာ။ ဉာဏ်တိုင်းထွာလျက်လိုရာကိုအသုံးချ။
 ထိုမကျည်းပင်ရကွတို့ကိုငွေကျေး။ တံသလောက်အတိုးနှိုးပေးပြီးလျှင်။ ရွှေသုဋ္ဌေးဝါဏီဇူ။ ကူးသန်း
 ခါရောင်းဝယ်ကြသူတို့။ နေပွင့်မျိုးစည်းပိတ်တိုးသဖြင့်တံခိုးဂုဏ်အင်ကျေးဇူးမြတ်အလွန်တင်သည်ဟုမ

ကျည်းပင်အမြွက်ကိုလင်းပြီးလျှင်။မဂ္ဂဇင်းထင်လေရအောင်ဟူ။သင်္ခေပစခမ်းချုပ်ပြီးလျှင်။လမ်းထုတ်
ဖော်ပြလိုက်ရပါပေတော့သည်တည်း။ ။မကျည်းပင်၏ အသုံးဝင်ဟန် လက္ခဏာကို ညွှန်
ပြခြင်းသင်္ခေပအမြွက်စကားပြီး၏။

ချဉ်ပေါင်ပင်၏ အသုံးဝင်ဟန်လက္ခဏာကိုပြခြင်းကားဤသို့တည်း။ ။အဓိပ္ပာယ်။ဗီဇကဟူ။
မည်ရခေအီရိုး။ချဉ်ပေါင်မျိုးတို့ကိုအကျိုးဂုဏ်အင်။ကျေးဇူးအင်နှင့်။ သုံးဝင်လက္ခဏာ။အကြောင်းကို
ရှာလိုက်သော်။ကမ္ဘာမြေခတ်။ရေနှင့်စပ်၍။ ဖြစ်လပ်ဦးစွာ။သယံဇာတဖြင့်။ဓမ္မတာအလျောက်။ ရှေး
ဦးစွာမြေမှပေါက်ခဲ့သော်။ စားသောက်သုံးယူ။ကပ်ဦးသူတို့။မြိုင်ဂူတောဝင်။ ချဉ်ပေါင်ပင်တို့၏။ အ
ကြင်လက္ခဏာ။အရသာကို။ကောင်းစွာတွေ့ရှိ။စားသုံးမိက။စိတ်၏ကြည်လင်။ချဉ်ပေါင်ပင်မှာ။ ခါး
ချဉ်သဘော။အရသာပြောသောကြောင့်။လေကြောသည်။ခြေဖြောင့်ဝတ်သဖြင့်။ဗီဇဝိနိဗ္ဗိတအာယု။
အသက်ကိုရှေ့စေရန်အကြောင်းပြုပြီးလျှင်။ယခုသို့တိုင်အောင်စားသောက်သုံးစွဲလျက် ရှိနေကြကုန်
သောချဉ်ပေါင်ပင်တို့၏အမျိုးမှာ။ ။လောဟိတဗ္ဗိလကော။ချဉ်ပေါင်အနီမျိုးဝင်း။ သေတဗ္ဗိလ
ကော။ချဉ်ပေါင်အဖြူမျိုးဝင်း။နီလဗ္ဗိလကော။ချဉ်ပေါင်အညိုဝင်း။ စိတြအဗ္ဗိလကော။ ချဉ်ပေါင်အ
လက်ကြားမျိုးဝင်းဟူ။လေးမျိုးပညာတ်။ဗိလဝခေ။တွင်။ ချဉ်ပေါင်ပင်နှင့်။ ငါးအင်ပိုင်းခြား။ထိုချဉ်
ပေါင်ပညာငါးပါးတို့၏ကြီးမားဂုဏ်အင်။အဘိုးထိုက်အသုံးဝင်သည်မှာ။ ချဉ်ပေါင်ပင်၏ တစမည်
ခေ။အခွန်အကြေးလျှော်တို့ကို။ဘူမော်မြေရိုး။ ပြေးတလျှိုးမှာ။လျှော်ကြီးတတန်။ သမ္ဘာန်သဘော။
ရွက်ကြိုးစုံနှောပြီးလျှင်။ကြိုးနှင့်စပ်သောအရာဌာန။ ဘယ်နေရာမှမကုန်ရအောင်။ ဂေါဏန္ဒာဆိုး။
နဖါးကြိုးနှင့်။ကံကြိုးဆွဲကြိုး။သစ်တင်ကြိုးမှ။ဆင်ကြိုးနှားလှ။အင်းခံလျက်။မြင်းလုံနှောင်ကြိုး။ ကွန်
ပိုက်ကြိုးနှင့်။ရက်ထိုးရုံအိတ်။ တံချည်အိတ်အမျိုးမျိုး။ ဓေတ္တခေ။သောသားရေလွန်ကြိုးတို့ကဲ့သို့တံ
ခိုးဂုဏ်အင်။အဘိုးထိုက်အသုံးဝင်သောကြောင့်လျှော်မြိုင်ချဉ်ပေါင်။လူပြေပေါင်မှ။ဂုဏ်ရောင်တက်
တိုးချဉ်ပေါင်ပင်၏တခိုးသည်။ကြိုးတို့အသုံးဝင်သည်သာမက။ ထာဝရတဆဲ နှစ်ရာသီပျက်။ အ
သက်တာရှေ့ဆောင်နှောသန္တ။အလိုရှိတိုင်းရသောကြောင့်။မနုဿလူတို့ပြေ။ စားသုံးရုံ အခြေအ
နေမှာလည်း။ပဝေခီရှေးအထက်။ထိုချဉ်ပေါင်အညွန့်အရွက်တို့ကို။ကြိုချက်ကောင်းစွာစားသောက်
ခါနှင့်။ဟင်းလျှာလက်သုတ်။ အမျိုးမျိုးလုပ်ပြီးလျှင်။ပရဘုတ်သုံးဆောင်။ ဗိလဝခေ။သော ထိုချဉ်
ပေါင်မှာ။ဂုဏ်ရောင်ဝိသေသ။တံခိုးထူးအလွန်ရှသောကြောင့်။ဖလခေ။ပြီး။ ဗိလဝသီးကို။ အနည်း
နည်းအနံ့ဖျံ့ယိုမျိုးစုံတခမ်း။ ဂုဏ်းဘူးဟူသောအမည်သညာ။ သံစည်သံဘူးတို့၌ ထည့်သွင်းခါဖြင့်။
တိုင်းပြည်မှာသုံးထိုက်။ သည်းခြေကြိုက်သဖြင့်။ အဘိုးထိုက်ချဉ်ပေါင် ဗိလဝသီးယို။ ဂုဏ်ထူးကိုဆို
ရလျှင်။ဘယ်လိုနည်းနှင့်မှမကုန်မဆုံး။နှလုံးညိုသက်။ သည်းခြေပျက်က ပေးဆက်ချဉ်ပေါင် ရောဂါ
ရှောင်လိမ့်ဟု အဆောင်ဆောင်သောဆေးကျမ်း။ချဉ်ပေါင်ပင်တို့၏နိဒါန်းသည်ဆုံးခမ်းသို့မရောက်
နိုင်။ပိုင်ပိုင်လက်ရှိ။ချဉ်ပေါင်ပင်၏ဂုဏ်ထူးကိုသိခဲ့လျှင်။ဗီဇကဆေးဆရာ။တြိသတ်။အဋ္ဌအဋ္ဌအရာရာ
တို့မှာလည်း။ သည်းခြေနာလေနာ။ ချဉ်ခါးသောအရသာတို့ကြောင့်။ ဝေဒနာကင်းပြောက်။ အ
ကြောင်းကိုထောက်လုပ်သော်။ ။နတ်များစုန်းဘွဲ့။ ဖန်းကွဲပမာ။သီချင်သာနှင့်။ရွှင်ခါမြူးဘိ။ ဖြစ်
တတ်ဘိသား။ဝိပရိတထိုအနာ။ချဉ်ပေါင်ကင်ပွန်းစေင။ ဇီးသီးခွံခွါစ။ ရရာတ ခုခုတိဝိ။ပြောစေတတ်
စွာထိုအစာကို။မျှားစွာဖိဆီးပေးပါ။သည်းခြေကင်းလွှဲသည်။ညာယတ်။ဟူ။ညွန့်ဘိဆေးကုန်း။
ဓာတ်စာကျမ်းတို့၌။ဂုဏ်စွမ်းကိုပြဆို။ထိုချဉ်ပေါင်သတ္တိ။ဓာတ်ကျမ်းနှင့်ညှိပြန်လျှင်။ နီလဗ္ဗလ။လော
ဟိတံပလို။ နိညိဘချာ။ ဤချဉ်ပေါင်နှစ်ပါးတို့မှာ။ ဓာတ်ကားသွေးတက်။ ဝမ်းလျှောသက်က။ပေး
ဆက်သင့်လျော်။အသုံးတော်၏။မြို့ရောင်လက်ကြား။ချဉ်ပေါင်များမှာ။သွေးကားဓာတ်သက်။ရောဂါ
တက်လျှင်။ပေးဆက်ကုလေ။သင့်လျော်ပေ၏ဟူ။ပဝေခီရှေးကော။ဥဒါန်းမြတ်ထားခဲ့သည်။ ရွှေချဉ်
ပေါင်လက်ကြား။ ဝက်သားနှင့်လဲပေါင်စားမိမှရင်ချောင်သည်ဟူ။ ရုံရောင်ဂုဏ်ထူးညွန့်ပြချက်ထူး
ပေသည်။ ။ချဉ်ပေါင်ပင်။ငါးလွှားနှင့်ချက်။မဘက်လားဟူ။ စကားသေချာ။ပဝေဏီထုံးတမ်းအလော။

ချဉ်ခါးသောအသုသာန်ကြောင့်။လေရောဂါကင်းပြတ်။သည်းခြေခတ်ကိုလည်း။ဖြောင့်မတ်တည်
ညှိမ်းဘေးရောဂါနှိမ်သည်ဟူ။အကြိမ်ကြိမ်အခမ်းခမ်း။ငါးဆောင်တွဲဆေးခတ်ကျမ်းဟူ၍။ ချဟန်း
မြတ်ပုဂ္ဂိုလ်ကျော်။ခင်ကြီး ချော်ကဝိ။အာဒိကပ္ပဒါဒရာသီခတ်ကျမ်း။ဣန္ဒြိယရောဂါလျက်။ဆေး
ခမ်း၌လည်းအသုံးကျခတ်ခင်း၌လည်းအသုံးကျခြင်းဟူသောအက္ခရာဒွယ။ပေးငါးဟူသောအက္ခရာ
ပဉ္စမ။ရောစပ်၍ပြခဲ့သော်သတ္တစင်စစ်။ဂဏန်းဖြစ်သောကြောင့်။၇ နှစ်အားကွရာ။ပေါ်ရောက်၍လာ
သည်ကို။ဣန္ဒြာရိယ။ခတ်ကျမ်း၌ပြသဖြင့်။ဝိဇ္ဇာမရလုပ်ငန်း။ပုတားသတ်သောဆေးအခမ်းခမ်းတို့
မှာလည်း။ ဉာဏ်စွမ်းနိုင်ရှည်။ချဉ်ပေါင်ပင်သည်။အသုံးဝင်အသုံးကျ။ပုနတသွယ်။လူသငယ်တို့။ဆီး
လယ်မသွား။ချုပ်ပြန်ညားက။နီသွားစင်စစ်။ချဉ်ပေါင်မြစ်ကို။ပြစ်ပြစ်ထွေးထွေး။ ကျောက်ပျဉ်တက်
ဆားနှင့်သွေးပြီးလျှင်။ဆန်ဆေးရေနှော။ဆီးဖုံးကျောက်ကို။သုတ်လျှော့လိမ်းနှိပ်။အပေါ်ငြိမ်လျက်။ယို
ဖိတ်ထွက်လာ။ လွတ်ချမ်းသာဟူ။ဆရာလက်တွေ့။ဆိုစလေ၏။ ။ဂုဏ်လွှေကြီးမား။ချဉ်ပေါင်ပင်
အသုံးများသည်ကို။သီးခြားရေးမှတ်။တခမ်းလုပ်သော။မိလပ်စေ့။ချဉ်ပေါင်စေ့။ဟူသရွေ့ကို။ယူ၍မ
ပျက်။ဆီဆုံစက်နှင့်။ကြိတ်ညက်မွှေးပွတ်ခါချလျှင်။တေလစင်စစ်။ဆီကောင်းကောင်းဖြစ်ပြန်၍။ တိုင်း
ခပ်လှပြည်။ ချဉ်ပေါင်ဆီကို။ဆိုမိုးအိုချက်ကျော်။ စားသော်တခမ်း။မီးထွန်းတချို့။ဆေးသို့တဝ။သင့်
လျှော်အောင်အသုံးကြသဖြင့်။တေလ၌အသုံးလျှော်။လျော်၍လည်းစားသုံး။ ချဉ်ပေါင်ပင်၏ဂုဏ်
အသုံးနှင့်။အသုံးပြုလက္ခဏာ။ဤအရာကို။ကဗျာစီကုံး။ချီးမွမ်းစရာဘယ်ဆုံးသော်ကြောင့်။နိဂုံးသင်္ဂ
ဟ။ချီး၍ပြမိမ့်။ ။တမကုန်။ကုန်ကုန်ကြီးကုန်ကြီး။မိုးနှင်းဟင်းမိုးလွန်နှင်း။လက်လက်ခတ်လေ။
ဆေးဘက်ဖြစ်စင်။ ပင် သီးခြားရေးမှတ်။ပင်၌လည်းကောင်း။ပင်၌လည်းကောင်း။သီးခြား
တချိုး။ချဉ်ပေါင်ရိုးမှာ။ထင်းမျိုးလုပ်သင့်။အပွင့်ဆေးမှတ်။ပန်းချီယင်လော။ထိုပြင်အစေ့။ဟူသရွေ့ကို။
လျော်၍စားသုံး။ဆီးမျိုးသုံးဟူ။မြို့လုံးပြည်ခွင်။ချဉ်ပေါင်ပင်ကို။ဘုရင်ဘုန်းကြွယ်။ ဝှဲတော်မြတ်တည်
သည်ဟူ။လုနယ်ဘလွှားနိုင်ငံသားတို့။ရှေးဖျားသမတ။ယခုကြံအောင်။တုပသုံးဆောင်။မျိုးချဉ်ပေါင်
သည်။ ။ဂုဏ်ရောင်ဘယ်မျှမဆုံးတည်း။ ။ဤကားချဉ်ပေါင်ပင်၏အသုံးဝင်ဟန်လက္ခဏာကို ပြ
ဆိုခြင်းသင်္စေပ။ ။ဝိတ္ထာရောပန။သဗ္ဗဘောသဇ္ဇဓဇတုပကရဏာဒီသု။ဂဟေတဗ္ဗော။ ။ဝိတ္ထာရောပန။
ချဉ်ပေါင်ပင်၏ အသုံးဝင်ဟန်အကျယ်ကိုမူကား။သဗ္ဗဘောသဇ္ဇဓဇတုပကရဏာဒီသု။ အလုံးစုံမကွ
၉ စောင်တွဲ။၅ စောင်တွဲ။နရသုခိဘက်တွဲလျက်။မိုးနုတဖေ။ ။ခင်ကြီးပျော်ရွှင်ရာသီ။ ဓာန္တန္တရိ။ဓာ
တုဝိဘာဝဒီပဏီ။နက္ခတ်ခတ်ရောနှောစီးပြီးလျှင်။အလီလီသောတရိသတ်။ အဓ္မအပ်တခမ်း။ဆေး
ခတ်ကျမ်းအဖုံဖုံ။ဓာတုရသယပေါင်း ချုံလျက်။အလုံးစုံသောဆေးကျွင်း။ဓတ်စာကျမ်းတို့၌။ ဂဟေ
တဗ္ဗော။ချဉ်ပေါင်အသုံး။ဂုဏ်အလုံးကို။ကုန်ဆုံးမှတ်ယူအပ်လှပပေကုန်၏။ ။

ဆူးပုတ်ပင်၏ အသုံးဝင်ဟန်လက္ခဏာကို ပြဆိုခြင်း။

ကဏ္ဍကပုတိ။သမုတိနှင့်။သုဟိသာရာ။ အတ္ထောလာသား။ ခေါဟာဗွင်ထုပ်။ ပင်ဆူးပုတ်ကို။အေ
ချုပ်သံခို။မြက်အရိတ်ဖြင့်။မက်စိတ်သံသယ။ကင်းခစရအောင်။ဘောသဇ္ဇဒီပဏီ။ လောကီလုပ်ငန်း။
ဓာတ်ဆေးကျမ်းတို့၌အခမ်းခမ်းအဖုံဖုံ။နည်းမျိုးစုံအောင်။သိမ်းချုံယူပေါင်း။ရှေးသူဟောင်းတို့။ သိ
ကြောင်းထင်ထင်။ဆူးပုတ်ပင်ကို။နှစ်ပြင်ပိုင်းခြား။ခွဲချမ်းလျက်ထားသည်မှာ။ ။စုလကဏ္ဍတ။စုလ
ကဏ္ဍကပုတိကော။ဆူးပုတ်ပင်ငယ်မျိုးငင်း။မဟာကဏ္ဍကပုတိကော။ ဆူးပုတ်ပင်ကြီးမျိုးကိုငင်း။ဣ
တိ။ဤသို့။ကဏ္ဍပုတိ။လူတို့ပြောစရာ။ ခေါဟာသမုတ်။ ပင်ဆူးပုတ်သည်။ဒုဝါ။နှစ်မျိုးနှစ်စား။ နှစ်
မည်ခြားသူ။နှစ်ပါးအပြားရှိလေကုန်၏။ ။ထိုသို့လှစ်ထုပ်။ပင်ဆူးပုတ်ကား။သမုတ်ခေါ်ပြီး။ဆူး
ပုတ်ကြီးနှင့်။တသီးပင်ငယ်ကိုနှစ်သွယ်တို့ကို။ လုနယ်၌ အသုံးပြုကြလေသည်ကား။ နှစ်ပါးသမုတ်။
ပင်ဆူးပုတ်၏။ရွက်နှစ်ဖူးငယ်။ညွန့်တက်နှယ်တို့ကို။ ယူသယ်ဆွတ်ခူး။ ရသာထူးဟူ။ စားကြုံးဟင်း
လျှာ။သုံးဆောင်ရာနှိုက်။ရသာဆီမိခါး။ ဝါယောများလျက်။ ဓာတ်ကားသွေးတက်။ ဆူးပုတ်ရွက်

ကာလအားဘက်အားပြည့်။ သွေးလေငွေ့လည်းပူ၍ချောင်းချောင်း။ အရသာအလွန်ကောင်းသည်
 ဟူ။ တပေါင်းသားကူးရသိဦးနှင့်၊ ခိုးဝါး။ ထိုကာလတွင်။ ပဌမဦးစွာ ပေါ်ရောက်၍လာရိုက်ကု။
 သေလာဘောင်တန်း၊ ခင်ရိုးတန်းတို့၌။ ကူးသန်းဖွေခါ။ ရအောင်ရှာပြီးသွင်း။ လူတကာချက်ပြတ်
 စားသောက်သုံးဆောင်ကြလေသည်လည်းတဌာန။ ။ အပ္ပမတ္တကပတ္တမုဋ္ဌိပတ္တဒါနံ။ ကုသလံဝါ
 ဟောတု။ ကျမ်းဂန်ကိုထောက်ရှုလျက်။ ရွက်နုဖူးငုံ၊ ကင်းပုံကျီးအာ။ နွားလျှာဆူးပုတ်။ လက်တဆုတ်
 ကို။ ချက်ပြုတ်လှူဒါနံ။ နိဗ္ဗာန်ကိုလှမ်းရသည်ဟူ။ စခန်းသင့်တွေကျူ။ ဆူးပုတ်ပင်၏ အသရေရက်ကို။
 အခချစ်သောမနာအိုးလောက်အောင်။ ဩဘာကြီးတွင်ခုံပါပေသည်လည်းတဝ။ ။ ကဏ္ဍကပုတိ။
 မည်ရှိခေါ်တွင်။ ထိုနှစ်ပင်မှာ။ အဆင်ကွဲပြီး။ ဆူးပုတ်ကြီးကား။ ရွက်ကြီးကင်းခက်။ ခိုးသက်ဆတ်ကင်း
 အပုတ်နံ့အလွန်ပြင်းသည်ဟူ။ အဆင်အနံ့ကို သိမှတ်အပ်ပေသည်လည်းဘသွယ်။ ။ ကဏ္ဍက
 ဆူးပုတ်ငယ်မှာ။ သေးသွယ်ရွက်စိပ်။ ပင်နှယ်ရိပ်ဖြင့်။ အဆိပ်အနံ့အနည်းငယ်သင်းပျံ့လျက်။ သီး
 သန့်ချာပြီးအကြီးအငယ်၊ ရွေးချယ်ပိုင်းခြာ။ ထိုနှစ်ပင်ဆူးပုတ်များတို့ကို။ ဟင်းစားရန်တဝ။ ဆေး
 ဓာတ်ခွဲအသုံးချကြသည်ကား။ ဝိဇ္ဇာဓရလုပ်ရပ်အရာ။ ဆူးပုတ်ကြီးအမြစ်ဟာကို။ တူးယူခါစီမံ။ သံ။
 ခံဘော်ဝှက်။ နာသွတ်ပြထား။ ဖိန်ဆေးဒန်တပါးပေးတို့၌။ ထိုက်သည်အားလျော်ညီစွာ။ လုပ်ရပ်ခမ်း
 ထိပ်ညာတို့တွင်။ လိုရာရာအသုံးချကြသဖြင့်။ ဝိဇ္ဇာဓရဆေးမျိုး၌။ အသုံးပြုကြရပေသည်လည်းအခမ်း
 ခမ်း။ ။ ဘိန္ဒုခေါ်သောဓာတ်ဆေးကျမ်းဘို့မှာ။ သွေးငန်း၊ လေငန်း၊ သလိပ်ငန်းနှင့်။ သည်း
 ချောငန်းဘလီ၊ ပသဝီအာပေါ။ ဓာတ်တေဇဇာနှင့်။ ဝါယောအာကာသ။ ရုပ်လက္ခဏာကိုထောက်ချင့်
 ခါဆပြီးလျှင်။ ဆေးများအချုပ်။ ရွက်ဆူးပုတ်ကို။ ချက်ပြုတ်စားစေ။ ရောဂါရွေ၏ဟူ။ ကဝေပဏ္ဍိ။
 နက္ခတ်ခက်၊ နဝင်းကိုကြည့်ပြီးလျှင်။ တည့်တည့်ကြီးအသုံးပြုကြပါပေသည်လည်းအနည်းနည်း။ ။
 တကွဆူးပုတ်။ ဝါယောဓုတ်လျက်။ ပျက်သည်ဧကန်၊ အချေမှန်။ ဇေးရန်ဆူးပုတ်ကြီးဟူသုံးနည်းများ
 စွာ။ ဝါယောဓုတ်ကြိုက်လက္ခဏာကို ကောင်းစွာမှတ်ပိုက်နှစ်လုံးပိုက်ပြီးလျှင်။ အလိုက်သင့်ထည့်
 သွင်း။ ထိုဆူးပုတ်၊ ပင်စည်အရင်းတို့ကိုလည်း။ ထင်းမီးခွဲအသုံးဝင်။ ဘယ်ဟာကိုပင်မျှမပစ်ရ။ မူလ
 မြစ်ရင်းဆူးပုတ်ကြီးရာဇာမင်းကို။ လုံသွင်းထည့်ကြ။ ကျေးနီစင်စစ်ခေါ်တမ္ပတို့နှင့်။ တကွနီးကား။ ထို။
 သောခါလျှင်။ ဦးမှာကင်းပျောက်။ မိုးကြိုးသက်ရောက်သည်ဟူ။ ရှေ့နောက်မြှော်မြင်။ လုပ်ရပ်သ
 မားပညာရှင်တို့သည်။ ခေါ်တွင်သမုတ်ကြပါပေသည်လည်းအမျိုးမျိုး။ တံခိုးဂုဏ်အင်၊ ကျော်စော
 ထင်သား။ ဆူးပုတ်ပင်အခမ်းအနား၊ အကြယ်ကိုရေးခါသားရလျှင်။ ဆုံးညားသို့တယ်မရောက်
 ကော်လံကုန်မည်ကို ကျောက်သောကြောင့်။ ထိုက်တံသလောက်နှင့် ရပ်ဆိုင်းလျက်။ ဖြတ်ပိုင်း
 သိမ်းအုပ် လိုက်ရပါပေတော့သတည်း။ ။ ဤကားဆူးပုတ်ပင်၏ အကြောင်းကိုပြဆိုရာ အမြက်
 စကားပြီး၏။ ။

ဆဲနှစ်ရာသီလိုက်ပွင့်သောပန်းနှင့်တကွ တွဲစပ်လျက်။ နက္ခတ်နာရီ ဘွားစသည်တို့ကိုလည်း။
 သင်္ခမံအကျဉ်းချုပ်ဖြင့်။ လင်္ကာသုံးပုဒ်ရေးထုပ်ထည့်သွင်းအဓိပ္ပါယ်ရှင်းရှင်းနှင့် အလင်းတော်ပြ
 လိုက်ပါဦးအံ့သတည်း။

ဝိဝဋ္ဌိဗ္ဗာဟိ။ ကမ္ဘာတည်စိမ့်။ သာကီနွယ်ဇာတ်။ မြဟ္မာနတ်တို့။ အာဘဿရာ။ ဘုံမဟာမု။ ခုံခါ
 ဆင်းသက်။ ကံရင်းချက်ကြောင့်။ အထက်ဓမ္မတာ။ လူနေရာဟူ။ ကိုးရာပတ်ဝိုက်။ မဇ္ဈတိုက်ဝယ်။
 သမိုက်စင်စစ်။ လူလူဖြစ်သော်။ အသစ်ပဌမ။ အာဒိစ္စနှင့်။ ခတ္ထိယသညာ။ လူများစွာတို့။ ကမ္ဘာရှေ့
 ထုံး။ ခေါ်အသုံးဖြင့်။ ဖေ။ ထုံးမြက်ဟ။ ဆဲနှစ်လဝယ်။ မိဿစက်ဦး။ လတခွေး။ ကမြူးအဇ္ဈ။ ဆိပ်ရူပဟူ။
 တာရအမြင်။ ရှေ့ဆံကျင်တည်။ သဘင်ရေသွန်း။ ဂန့်ဂေါ်ပန်းနှင့်။ တခန်းရင်ဂါတ်။ သူရိန်နတ်လည်း။
 မှန်းမတ်ရိတ်သွား။ သုံးဘွားဟူ။ ပိုင်းခြားစင်သင့်။ နာရီလင့်သော်။ နေ့ညဉ့်အမျှ။ ကိန်းအခါဖြင့်။
 တိဿီအညီ။ သုံးဆယ်စီတည့်။ ရွယ်ချီချိန်သင့်။ မိုးတိမ်မြင့်ဝယ်။ တိန်ဝင့်စိတြ။ နက္ခတ္တတို့။ မြူးကြသင်း
 ကျံ။ အလင်းဒန်လိမ့်။ ။ တတံပြီသာ။ ကဆုလဝယ်။ ကျုံ့ရညောင်ရေ။ ဝွဲအချေရှိက်။ နွဲ့လေချရာ။

[illegible]

ထွန်းလင်းသာလျက်။ ဆွမ်းပါရာဂူ။ အခါလူပြီ။ ဘာနဲ့ရောင်လင်းနာရီကျင်းက။ ညဉ့်ခင်းဇယ။ ကြိ
ယန့်ငှ။ နေ့မှဆခွေး။ ဆိုရေးတမျိုး။ ကြာသွတ်အိုးကို။ ကြာမျိုးစိုက်ထ။ ကုန်ဟုပြန်။ ။ ပဉ္စတဝါး။
မေကိုထားလော။ ရိပ်သွားဆောင်းဆောင်း။ ရှေးသူဟောင်းတို့။ အကြောင်းလမ်းတွင်။ မော်
ကွန်းတင်လိမ့်။ ။ မိန့်ခွင်ခေါ်ကြောင်း။ လတပေါင်းကား။ ခါကောင်း။ ။ ရှေးသူဟောင်းတို့။
ရာသီပြန်သော။ ဂိဗ္ဗ။ နွေဦး။ မင်းလွင်မြို့သာ။ ပွင့်ဖူးသရဖီ။ အင်ကျင်းနီတို့။ ရှစ်ကျင့်ကျင့်။ ပင်လုံးပွင့်၍။
ကောင်းကင်အဇတော။ တိမ်ဖွေချာဝယ်။ ဥက္ကရာဇ်ရံနီ။ သန်းခေါင်ညီလိမ့်။ နေခြည်ကင်းစင်အပြဟု။
ကမ္ဘာတဝါး။ လကိုထား၍။ ၄ ဘွားခေါ်ဆို။ ထိုမိန့်အတွင်း။ နာရီလင်းသော်။ ညဉ့်ခင်းဟိသံ။ ခွေး
အရန့်ငှ။ အဋ္ဌဇွေးပင်။ နေ့ကိုရှင်လော့။ ရုပ်သွင်ငါးကျင်း။ ပုံကိုခင်းမှ။ ရှောင်ငင်စေ။ ထံစေတီ၌။ ရွှေပိ
တောက်။ အင်ကျင်းလျှောက်၍။ ချီးမြှောက်ပူဇော်။ ခါပွဲတော်ဟု။ ပျော်ပျော်ရွှင်ရွှင်။ ဆွဲနှစ်ခွင်ငယ်။
လစဉ်မပြတ်။ အာဒိကပ်မှ။ ယခုကြအောင်။ တပုနှုန်းစံ။ အလုံးမှန်ဟု။ ထုံးစံပေါ်ထွန်း။ ပြဇာတ်ညွှန်း
သည်။ ။ မော်ကွန်းသက်သေသံပိုင်းတည်း။ ။ မှာထားချက်။ ။ ဤသို့အားဖြင့်။ သုတေသန။ ပုဂ္ဂလ
ဟု။ မုချခေါ်တွင်။ ပညာရှင်တို့။ လစဉ်လိုက်ပွင့်သော ရာသီပန်းများကိုသာရေးသားပေါ်ဟု။ အဘိဃာ
စကပြသော်လည်း။ ဥတုခါမှ။ ခွေးအရိဝယ်။ ရာသီလိုက်ပွင့်သောပန်းကိုသာမက။ ငါးသကစ။ မိန့်သို့ကြ
အောင်။ နက္ခတ္တအစွန်း။ မွန်းတည့်သန်းခေါင်။ နေရောင်ရိပ်သွား။ ဘွားနာရီ။ အစီအစဉ်။ ဆွဲနှစ်ခွင်
ကို။ လင်္ကာသုံးပုဒ်။ အကွင်းချုပ်ဖြင့်။ ရေးထုပ်ဖော်ပြလိုက်ရပါတော့သည်။ ။ ဤမှတစ်ဖန်။ ရေးပညာ
ရှိအများတို့။ ရေးသားဖော်ပြအပ်သောရာသီလိုက်ပွင့်သောပန်းစသည်တို့ကိုအလိုရှိခဲ့ပါလျှင်။ လော
ကီသိပ္ပလင်္ကာရကျမ်း။ (၇၂) နံပါတ်တွင်။ ညွှန်လမ်းမင်္ဂလာ။ မော်ကွန်းသားအံ့။ မဟာကပ္ပေ။ မီးရေ
လေကြောင့်။ ပျက်ကြတည်ထွန်း။ လေကွန်းမြင်းမိုရ်။ ရုဂန္ဓိနှင့်။ ရေညီသီတာ။ တရာနက္ခတ်။ လနတ်
သူရိပ်။ အချိန်မနှောင့်။ လတပေါင်းကို။ ခါကောင်းအသင်းစွဲခြင်းနှင့်။ စသည်ဖြင့်။ မင်းနဝအေးချီးဆို
ရေးသားအပ်သော ဆွဲနှစ်ရာသီသို့လင်္ကာပိုဒ်ကိုင်း။ ။ ထိုလောကီသိပ္ပလင်္ကာရကျမ်း (၇၅) နံ
ပါတ်တွင်။ ပွဲသင်္ကြန်ထူးလွတ်။ တရားလခါတော်။ ညဉ့်လေးချက်မဟိုရ်ဆော်လျှင်။ ဖုသုနော်တည့်
ခင်း။ တီးတချက်။ ဘရဂုဏီငယ်။ ၂ ချက်စီစီတြိလင်။ နုရာဓညဉ့်သုံးယံဝယ်။ ပြုပါသံ ကြယ်မင်း။
ဖန်စက်ရှိန်ထိန်လင်းတံ့။ လေးချက်တွင်းတည့်ပြန်။ ရင်ဂါတ်ခိုင် ကြိုင်လိုင်သွင်းပါဘိ။ မြိုင်ပင်း
သင်းပျံ့ပျံ့လျှံ။ ရှေ့ဆိပ်ရုပ်သွင်သဏ္ဌာန်ငယ်။ မင်္ဂလမူလမို့။ ခါငါးသရာသီပေါ်။ လွန်းစေတီနှင့်။ ဖော်
စံသူကြွမြင့်ပေါ်မှာ။ ပုသင့်တော်မူတုံးပလေး။ ။ စသည်ဖြင့်၎င်း။ ရေးသားဘွဲ့စီအပ်သော။ ဆွဲ
နှစ်ရာသီတေးတပ်။ ။ ထိုမှတစ်ပါး။ နတ်ပြည်စံမင်းတရားကြီးရွှေလက်ထက်တော်အခါ။ အိမ်ရှေ့
ဘုရားထံတော်ပါးတွင်လက်စွဲတော်အဖြစ်နှင့်အမှုထမ်းကောင်းရွှေဘွဲ့ခံ။ နာမံကျော်လွန်း။ ဆရာကြီး
ဦးသာထွန်းသည် ရေးသားဘွဲ့စီအပ်သော။ ဆွဲနှစ်ရာသီဘွဲ့ရတုအခမ်းတွင်။ ။ ရွက်သစ်လောင်း
ချိန်မို့။ ရွက်ဟောင်းစုန်ရင်ကြွ။ တောဝမြိုင်လယ်။ တောင်တရိုးမှလ။ မြို့ခိုးမှောင်မိုလို့။ မိန့်ရာသီခါ
တော်ရောက်သည်နှင့်။ ပိတောက်ကယ်ရွှေဖိပန်း။ ဆန်းလှသွယ်သွယ်။ ကြယ်ပြုပ္ပါပရံဆိုက်ပြီမို့။
မိသ်းတိမ်တိုက်ကောင်းကင်ဝယ်။ ကိုယ်နယ်ကချိန်သို့။ နန်းရဝေ။ မန်းမြေသူဟန်ချီလို့။ သံစေတီမူ
တော်ဓာတ်မှာ။ ဆည်းကပ်လှူဆဲ။ ။ စသည်ဖြင့်၎င်း။ ဆွဲရာသီဘွဲ့ရတုသဖြန်။ ။ ငင်းပြင်။ ။ နှစ်
ပေါင်းသုံးဆယ်ကျော်။ သီပေါမင်းလက်ထက်တော်လေးကံက။ ပေါ်ပေါက် ရောက်လာသော။
စောဖေနှင့်။ စေမေတို့ ပြဇာတ်ဆွဲနှစ်ရာသီဘွဲ့အတ္ထုပ္ပတ္တိတွင်။ ။ ကြံငြိမ်သတံ့ ရောက်ခဲ့ပြီ။ ရွက်
ချက်ကယ်လျှော်ကြွပြန်ချိန်မို့။ ဇလဝကလေးခေါ်ရွှေဂန္ဓတို့မှာ။ ဖုင့်လို့ချီ။ ရှေ့ဆံကြင်တာရာထွန်း
ပေါ်လိမ့်။ ရေသွန်းတံ့လခါမှ။ အို။ နာရီကမူတူဘဲ။ လွမ်းငွေငယ်နှောင်းကျွန်းမြေခါ လောင်သာ
လာင်တော့တယ်။ ရွယ်ကိုးရောင်မှတ်ရည်မြို့တာမို့။ နယ်ကိုးချောင်ပတ်သည်ဆိုတယ်။ အပယ်
လေးခိုးမြှုပ်ကိုင်ပိုင်းတံ့။ မောင်မောင်ရေစိုးပူချက်ရိုင်း။ ။ စသည်ဖြင့်။ မောင်တောင်ဆရာကြီးဦး
ဆုသာရေးသား ဘွဲ့စီအပ်သော ဆွဲနှစ်ရာသီဘွဲ့လေးချိုးပိုင်းတို့ကိုင်း။ ။ ထိုပြင်။ ရင်ဂါတ်ပေါ်
စတုရန်းလ။ ထွန်းပစိတြိ။ စကားပွင့်စ။ ကဆိုလ။ လျှံပင်သာခါ။ ။ စသည်ဖြင့်၎င်း။ ရေးသားတော်ပြ

THE TAMARIND TREE ETC.

အပ်သောသံခိပ်သံပေါက် ထိုနောက်များစွာ။ ရှေးဆရာပျို၊ ဘွဲ့ခါစီကုံးအပ်သော ရာသီလိုက်ပွင့်
 သောပန်းစသည်တို့ကို။ အလိုရှိခဲ့ပါလျှင်။ ထိုထိုကျမ်းဂန်တို့၌။ ရှာကြန်ဖွေယူအပ်လှပါပေတော့သ
 တည်း။ ။ ပုဗ္ဗေပိဟန်။ သတဝရံလမ္ဘတိ။ သာသနဝံသကထာဒိနံ။ ရစိတတ္တာ။ ဣဒါနိပန။ ဒွါဒသ
 စက္ကေ။ ပုပ္ဖိတမာလေနသဟ။ စိဉ္စရုက္ခာဒိကာရဏံ။ လိက္ခိပိတော။

ဤကားရေးသားသူအမည်။

စစ်ကိုင်းဒီဇင်ဘာ။

ဆားထောင်ရွာ။

ဆရာကြီးဦးရှမ်း။

The Late U May Oung.

By the death of the Hon'ble U May Oung the Society has been deprived of one of its founders and Burma of one of her ablest sons. Let others record his work as Lawyer, Judge and Member of the Executive Council of the Governor of Burma. Here we speak of him as a Research worker.

With a liberal education finished at Cambridge and the Inns of Court, U May Oung saw the importance of a Society which proposed not only 'to encourage and promote the study of questions relating to Burma, its history, its ethnology, its philology and other cognate studies' but also 'at the same time to foster, encourage and increase the good feeling and mutual respect between the Briton and the Burman'. He dwelt upon these aims and objects in the illuminating address which he had the honour to read at the inaugural meeting of the Society. If he confessed to being no authority on any of the subjects, he made his confession out of pure modesty. For he lost no time in criticising some who were then considered as authorities in their own subjects. Thus he quarrelled with Mr. Taw Sein Ko for seeing everything through Chinese spectacles. But he never showed that personal animosity that often mars the controversies of learned scholars. Politeness of manner and speech was his distinguishing mark. He stimulated research by his suggestive articles and reviews. The article on the Chronology of Burma (Vol. II, pt. 1) is an example of his careful work. His contributions give sufficient evidence that, had he chosen, he would have been a first-rate scholar.

U May Oung took a keen interest in the work of the Society. He seldom failed to attend a meeting, be it a meeting of the Sub-committee, the Executive Committee or the Annual meeting. He always had something to say, an apt remark to make, a useful suggestion to give, something that was at least 'interesting.' A fluent speaker, a good conversationalist, he was sure to make his presence felt at the meetings. He put his heart and soul into any new project of the Society. Thus he took an active part in the Burmese literature Prize Competitions. Besides acting as a judge, he offered prizes for the competitions. He warmly supported the founding of the Text Publication Series, which, by bringing out critical editions of the best works of Burmese literature, is doing a piece of work, which alone ought to justify the existence of the Society. He early became Vice-president and later the President and even edited the Journal for a year.

P. M. T.

PROCEEDINGS

OF THE

BURMA RESEARCH SOCIETY.

—o—

Minutes of the meeting of the Executive Committee held at University College on Friday, the 20th August 1926, at 6-30 p.m.

P R E S E N T.

1. S. G. Grantham, Esq., I.C.S. (in the Chair)
2. Prof. Pe Maung Tin, B.Litt., I.E.S.
3. U Tun Pe, M.A.B., B.L., M.R.A.S.
4. M. S. Collis, Esq., I.C.S.
5. Prof. W. G. Fraser, M.A., I.E.S.
6. U Po Sein, A.T.M.
7. U Thein
8. A. Cassim, Esq., B.A., (*Honorary Secretary*).

1. Confirmed the minutes of the meeting of the Executive Committee held on the 30th March 1926.

2. *Recorded* the regret of the Committee for loss sustained by the Society by the death of the late U May Oung; and *Resolved* that the Hon'ble Mr. J. A. Maung Gyi be invited to accept the Vice-Presidentship.

3. *Recorded* letter No. 2463 dated the 7th April 1926 from the Branch Manager, British Burma Press, accepting the offer of 50 per cent. commission on the sales of the Society's Journal as a temporary measure for two years.

4. *Recorded* letters dated the 29th March and 6th April 1926, respectively, from Mr. Coedés and Mr. Waley accepting the offer of Corresponding Membership of the Society.

5. *Recorded* letter dated the 20th April 1926, from the Director, Metropolitan Library, China, asking for the Library to be placed on the free list for the Society's publications.

6. Confirmed the sanction accorded on Circular No. 18 dated the 25th June 1926 to the printing of a second edition of 1,000 copies of the "Owada-Du-Pyo" at the Pyi Gyi Mundyne Press.

7. Confirmed the sanction accorded on Circular No. 20 dated the 27th July, 1926, to the printing of Vol. II of Maung Kala's "Mahayazawingyi" (No. 5 of the Text Publication Series) by the Pyi Gyi Mundyne Press.

8. *Resolved* that the Honorary Secretary be asked to submit at the next meeting of the Executive Committee a statement showing the total receipts and disbursements on account of the Text Publication Fund since its inception with a view to establishing a Text Publication Fund independent of the General Fund.

9. Considered the opinion of the General Committee on Mr. Harvey's suggestion regarding the headlines of the Journal and reprints for contributors of the articles.

Resolved :—(a) That Mr. Grantham be requested to obtain the advice of Mr. Bishop of the Government Press on Mr. Harvey's suggestion regarding reprints for contributors of articles.

(b) That Mr. Harvey's suggestion that an article's headline in the Journal be restricted to the right-hand page be accepted.

(c) That in future the left-hand page of the Journal be headed as Jour. Burma Research Soc. followed by the number of volume and the part in Roman figures and the year in Arabic numerals provided that a wide space be left between the word Soc. and the number of volume; e.g.

Jour. Burma Research Soc.

XVI. I. 1926.

10. *Resolved* that the offer of donations of Rs. 525 and Rs. 100 made by Mr. B.W. Swithinbank, I.C.S., be accepted with cordial thanks and that he be requested to suggest the best way in his opinion of spending the former amount donated for the purpose of collecting manuscripts.

11. (a) *Fixed* 6 p.m. on Saturday, the 4th September 1926, for a General Meeting of the Society.

(b) Empowered the Honorary Secretary to spend a sum not exceeding Rs. 20 for any special arrangements that might be necessary in connection with the above meeting.

12. Considered letter dated the 12th August, 1926, from Mr. Hoke Htain, University College, praying for the sale of the Journal at special concession rates to students of the University.

Resolved that the request cannot be granted.

A. CASSIM,

Honorary Secretary,

Burma Research Society.

The 21st August 1926

List of Recent Additions to the Library.

- Indian Antiquary, Index to Vol. LIV, 1925.
 Indian Antiquary, April to September 1926.
 Annals of the Bhandarka Institute, Vol. VIII, Part I.
 Bulletin of Applied Botany and Plant Breeding, Vol. XV, Nos. 3, 4, 5—1925; Vol. XVI Nos. 1, 2, 3—1926.
 Physiological Basis of Drought-Resistance of Plants.
 Journal of Royal Asiatic Society of Great Britain and Ireland, Vol. XVII, Nos. 2 and 3 (April and July 1926.)
 Journal of the East India Association, Vol. XVII, Nos. 2 and 3.
 Alphabetical list of palm-leaf Manuscripts, Paper Manuscripts and Parabaiks in Talaing preserved in the Manuscript Department of the Bernard Free Library, Rangoon.
 Zeitschrift der Deutschen Morgenländischen Gesellschaft Band 5—Heft 1 and 2.
 Djawa, Nos. 2 to 6—1926.
 Bulletin des amis du vieux Hué—Index for 1925.
 Le Bulletin des amis du vieux Hue, 1914-1923.
 Annual Report on South-Indian Epigraphy for the year ending 31st March 1925.
 Aśoka Edicts in New Light, by B. M. Barua.
 Memoirs of the Archaeological Survey of India—No. 22. An Historical Memoir on the Qutb: Delhi.
 Oudheidkundig Verslag, 1925.
 Memoirs of the Archaeological Survey of India—No. 26. Two Statues of Pallava Kings and Five Pallava Inscriptions in a rock-temple at Mahabalipuram, by H. K. Sastri.
 Mitteilungen der Anthropologischen Gesellschaft in Wien LVI, Band III. u. IV. Heft
 Journal Asiatique, Tome CCVII—No. 2, October-December 1925.
 Memoirs of the Archaeological Survey of India No. 28. Bhasa and the Authorship of the Thirteen Trwandrum Plays, by H. Sastri.
 Malayan Branch of Royal Asiatic Society Journal, Vol. IV, Part I.
 History of Burma, by G. E. Harvey.
 Van Het Congres Te Houden Te Soerabuja 23-26, September 1926, door Het Java-Instituut.

Siamese.

1. Phrā Aphai Mani (A poem by Sunthorn Phu) 3 vols. by H.R.H. Prince Damrong Rajanubhab, with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467-68.
2. Milindapañhā: or The Questions of King Menander translated into Siamese 3 vols. with perface by H.R.H. Prince Damrong Rajanubhab, B.E. 2468.

LIST OF RECENT ADDITIONS TO THE LIBRARY.

3. Eulogic Poems (In Honour of H.M. King Chulalongkorn,) 3 vols., with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467-68.
4. Pañasajātaka : or The Fifty Births of Buddha translated into Siamese Vols. II—IX with a preefece by H.R.H. Prince Damrong Rajanubhab B.E. 2467-68.
5. The Jātaka : translated into Siamese, Vols. VI—IX, with a preface By H.R.H. Prince Damrong Rajanubhab. 2467-68.
6. Kathākusumamañjari : translated from Sanskrit into Siamese, Parts II, IV—VI, with a perface by H.R.H. Prince Damrong Rajanubhab. 2467-68.
7. Chinese Altars, by H.R.H. Prince Damrong Rajanubhab, Parts I & II. B.E. 2468.
8. The Jātaka translated into Siamese. B.E. 2468.
9. Relation of H.M. King Chulalongdorn's Tours in the Malay Peninsula in 1890, 1898, 1899, 1905, 1909 with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467.
10. Relation of H.M. King Chulalongkorn's Tour in the Malay Peninsula in 1888 and 1889 with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467.
11. An excursion to Angkor Vat, by H.R.H. Prince Damrong Rajanubhab B.E. 2468.
12. Specimen of the Siam Prabhut, a Māgazine Edited by H.R.H. Prince Prachaks with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
13. Diary of H.M. King Chulalongkorn's Visit to Java in 1896 with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
14. Records of the promotion in rank of the Princes of the Bangkok Dynasty with a perface by H.R.H. Prince Damrong Rajanubhab. B. E. 2468.
15. Letters of H.M. King Chulalongkorn during His Tours in the Malay Peninsula in 1899, 1890, 1898, 1901, with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
16. Fragment of the story of khun Chang Khun Phen, with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
17. The Story of Nang Nobhamas, with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
18. Kammakilesakathā : A Sermon by The Last Supreme Patriarch H.R.H. Prince Vajiranana Varoros, with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
19. Interview of A Chief Dacoit, By H. R. H. Prince Damrong Rajanubhab. B.E. 2468.
20. Novels by H.M. King Rama VI, with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
21. History of Siamese Orders by H.R.H. Prince Damrong Rajanubhab, with a perface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.

22. Cambodian Proverbs, with a preface By H.R.H. Prince Damrong Rajanubhab. B.E. 2467.
23. A collection of Prayers Mostly Used in Thanksgiving Services, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
24. Relation of H. M. King Chulalongkorn's Visits to Singapore, Batavia and India (Second Edition) with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
25. A collection of Moral and Religious Instructions, with a preface by H.R.H. Prince Damrong Rajanubhab. 2468.
26. Monuments and Objects of Interest dating from the Reign of H.M. King Mongkut, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468
27. Specimens of Poetical Composition by The Kings of Siam from the XVth Century to the last Reign, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468
28. Religious Intercourse between Siam and Ceylon in the Reign of H.M. King Mongkut, with a preface by H.R.H. Prince Damrong Rajanubhab. 2468.
29. Sojasapañhā by The late Patriarch Pussadeva of wat Rajapradit with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
30. Milindapañhā: A fragment of an Ancient translation of The Question of King Menander into Siamese with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
31. Evidence Regarding Ayuddhaya translated from the Burmese 2nd Edition with a preface by H.R.H. Prince Damrong Rajanubhab, B.E. 2468.
32. A collection of travels, Vol. VI (An excursion to Bimāy by Major E. Seidenfaden translated from the English into Siamese) with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
33. A collection of Chronicles, Vol. XXXI (Reminiscences from a Journal of the Oldest Living Missionary to the Siamese by Dr. D.B. Bradley, translated into Siamese with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468
34. A collection of Tales. vol. IV (Vetālapakaranam) with a preface by H.R.H. Prince Damrong Rajanubhab, B.E. 2468.
35. Manners and Customs, Part XVII (Issued during the First and Second Reigns of the Bangkok Dynasty concerning Various Royal Ceremonies, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
36. A Siamese poetical version of the Story of Abu Hassan by H.M. King Chulalongkorn, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
37. History of the Thai Writing, by G. Coedes. B.E. 2468.
38. Parts of the Song accompanying The Recital of Maharaja Kanda (A chapter of the Vessantarajata) with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.

39. *Gāthā Dhammapariyāya* : A Pāli poem composed by H.M. King Mongkut with a Siamese translation, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
40. Poetical relation of a tour to Subarn by Sunthorn Phu with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
41. Poetical relation of a tour to Haripunjai, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467.
42. Collection of Moral Stanzas with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467.
43. *Aniruddha* : A poem, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467.
44. Eulogy of H.M. King Rama II by Pyha Trang with preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2467.
45. Eulogy of H.M. King Phra Narai by Luang Sri Mahosot with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
46. A Sermon in Praise of H.M. King Chulalongkorn by H.R.H. Prince Vajirañāna Varoros. B.E. 2468.
47. Religious instructions by H.M. King Mongkut when he was in the Priesthood, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
48. Funeral Urns by T.R.H. Prince Sommot Amarabandhu Prince Damrong Rajanubhab and Price Narisarānuvattivong. B.E. 2468.
49. Poems by Prince Chao Fa Dhammadhipes, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
50. Moral Stanzas by Sunthorn Phu, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
51. History of some Renowned Images of Burma by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
52. Kong Tek Annamite Prayers at Funeral Ceremonies with a Siamese translation- B.E. 2468.
53. Dissertations on some Point of Doctrine by Mom Chao Chandrachuda, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
54. Pāli Gāthās used in connection with the Bija Mangala Royal Ceremony, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
55. A Poem on the Twelve Months from the Time of Ayudhya with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
56. Lullabies for the Royal Elephants, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
57. Two Sermons by Phra Dhammacetiya, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
58. List of Persons Upon which H.M. King Chulalongkorn Performed the Tonsure Ceremony, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
59. Rhymes composed for a New Year's Dinner Given to Members of the Royal Family, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.

60. Diary of H.M. King Mongkut's Tour to the Northern Provinces (B.E. 2376) with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
61. A Collection of Poetries by H.M. Rama III, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
62. A Poem in Honour of Phya Sri Pheng, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
63. A Poem by H.R.H. Prince Pavaresvariyaonkarana Relating His Tour to Nagara Sri Dharmaraja, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
64. Religious instruction in Pāli composed by H.M. King Mongkut when he was in the Priesthood, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
65. Explanations About the Names of the Kings of the Ayuddhya Dynasty by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
66. Biography of H.M. King Mongkut in Verse by H.R.H. Prince Pavaresvariyaonkarana. B.E. 2468.
67. Dhammaratanathā : A Sermon Delivered by Phra Amarābhīrakkhita, with a preface by H.R.H. Damrong Rajanubhab. B.E. 2467.
68. Samudaghosa : A Poem, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2468.
69. Artificial poems composed in the Third Reign inscribed on Stone Slabs in the Precincts of Wat Phra Jetubon, with a preface by H.R.H. Prince Damrong Rajanubhab. B.E. 2465.

If you wish to become a member or to propose a friend for membership, you are requested to sign the attached slip and forward it to the Hon. Secretary. If not, please pass on the forms to one of your friends.

BURMA RESEARCH SOCIETY.

Patron:

HIS EXCELLENCY THE GOVERNOR OF BURMA.

THE BURMA RESEARCH SOCIETY was founded in 1910. Its objects are the study and encouragement of Art, Science, History and Literature in relation to Burma, and the promotion of intercourse between members of different communities with a common interest in such objects. Meetings are held periodically at University College, Rangoon, at which papers are read. The principal work of the Society is the publication of a Journal, which appears thrice a year and is supplied free of charge to members. Articles by well-known scholars such as Messrs. C. O. Blagden, C. Duroiselle and R. Halliday have appeared in the Journal, but the Editor is chiefly dependent for contributions on Burmese and English members of the Society stationed in various parts of Burma. The articles are mostly on Burmese history, archaeology, literature, art, language, philosophy, religion and folklore. They are of interest not only to scholars but also to general readers who are attracted by Burma and its people. The Editor welcomes contributions from members who have made a study of any special subject or locality. Illustrated articles and articles in Burmese are always welcome. Apart from its Journal, the Society is also publishing Burmese literary and historical works and translations, and in this branch of its activity enjoys the assistance of the best Burmese scholars. It possesses a growing library for the use of members.

The Society is dependent for its funds entirely upon the subscriptions of members. The subscription is Rs. 15 yearly, payable in advance, or a single sum of Rs. 150.

The Society invites applications for membership. Anyone who desires to join, may ask a member to propose him, or may write to the HONORARY SECRETARY, BURMA RESEARCH SOCIETY (Bernard Free Library), RANGOON. The attached form may be used.

To

THE HONORARY SECRETARY,

Burma Research Society,

(Bernard Free Library), RANGOON.

* I propose for election as a member of the BURMA RESEARCH SOCIETY the name of.....Designation.....Address.....

* I desire to be elected a member of the BURMA RESEARCH SOCIETY.

Name.....

Designation.....

Address.....

* Delete as circumstances require.

JOURNAL OF THE BURMA RESEARCH SOCIETY.

Vol. XVI, Part III.

CONTENTS.

PAGE.

Geology.

- CHHIBBER, H. L.,—The Rhyolites and Rhyolite Tuffs
of Thaton District, Lower Burma. 166
- The Serpentine and the associated
minerals of Henzada and Bassein Districts, Burma. 176

Zoology.

- MEGGITT, F. J.,—A list of cestodes collected in Burma
1923-1926 200
- SUBRAMANIAN, K.,—Notes on the Larvae of *Centro-*
rhynchus atuconis (Muller 1780) [Acanthocephala]
found in Rangoon toads 211
- GHOSE, S. B.,—The Nweshin 213

Botany.

- HANDA, M. R.,—The life-history of *Thuja occidentalis*. 214
- GHOSE, S. L.,—The Myxophyceae of Rangoon II. 220
- KHANNA, L. P.,—*Cyathodium cavernarum* Kunze from
Burma 227

Engineering.

- ELGOOD, W. NELSON.,—Hydro-Electric Development,
the Economic Factor 230



THE
GLASS PALACE CHRONICLE
OF THE
KINGS OF BURMA
(HMANNAN YAZAWIN).

TRANSLATED BY
PE MAUNG TIN

AND
G. H. LUCE,

PUBLISHED BY THE OXFORD UNIVERSITY PRESS
FOR THE TEXT PUBLICATION FUND OF THE BURMA RESEARCH SOCIETY

The *Glass Palace Chronicle*, the most important of the native histories of Burma, was compiled in 1829, by a committee of scholars appointed by King Bagyidaw of Burma, who based their work on earlier chronicles, inscriptions, and other ancient records.

The present translation omits the first two parts of the Chronicle, as they merely retell the story of Buddhism and of the Buddhist kings of Ancient India, and begins at the point where the story moves to Burma. The third part opens with the history of the three Burmese kingdoms of Tagaung, Tharehkittara and Pagan. The fourth and fifth parts of the present volume cover perhaps the most interesting period of Burmese history, that of the kingdom of Pagan—the city on the middle Irrawaddy, a hundred miles below Mandalay, whose noble temples and vast ruins still astonish visitors. The volume closes with the fall of Pagan (1287 A.D.), consequent on the invasion of Burma by the armies of Khublai Khan. It is hoped that the response to this publication will justify the Burma Research Society in continuing the translation and adding notes in subsequent volumes.

ORDER FORM FOR MEMBERS ONLY.

**Special Reduced Price for Members of the B. R. S. Rs. 5 per copy
(in paper covers).**

To

THE HONORARY SECRETARY,
Burma Research Society,
(Bernard Free Library), RANGOON.

DEAR SIR,

I am a member of the Burma Research Society. Please send
me.....^{copy}_{copies} of the translation of the Glass Palace Chronicle
V. P. P., for which I enclose the sum of Rs.....

Name.....

Designation.....

Address.....

THE BURMA RESEARCH SOCIETY

(FOUNDED 1910.)

*For the Study and Encouragement of Arts, Science, History and Literature
in relation to Burma.*

PATRON.

HIS EXCELLENCY SIR SPENCER HARCOURT BUTLER,
G.C.I.E., K.C.S.I., I.C.S.

COUNCIL.

President.

THE HON'BLE MR. JUSTICE U BA, B.A.*

Vice-Presidents.

U SHWE ZAN AUNG, A.T.M., K.S.M.
THE HON'BLE U MAY OUNG, M.A., LL.M.
C. W. DUNN, ESQ. C.I.E., I.C.S.

Honorary Secretary and Treasurer.

A. CASSIM, ESQ., B.A.*

Honorary Editors and Librarians.

PROF. PE MAUNG TIN, M.A., B. Litt., I.E.S.*
PROF. F. J. MEGGITT, M.Sc., Ph.D., I.E.S.*

Executive Committee.

U Po BYU	PROF. D. G. E. HALL, I.E.S.
U TIN, K.S.M., A.T.M.	S. G. GRANTHAM, ESQ., I.C.S.*
L. F. TAYLOR, ESQ., M.A., I.E.S.	W. G. FRASER, ESQ., I.E.S.
DR. G. R. T. ROSS, I.E.S.	J. S. FURNIVALL, ESQ.
U Po SEIN, A.T.M.*	M. S. COLLIS, ESQ., I.C.S.
U TUN PE, M.A.*	D. B. PETCH, ESQ., I.C.S.
D. J. SLOSS, ESQ., M.A.	U SET, B.A.
	PROF. W. N. ELGOOD, I.E.S.

General Committee.

J. L. MCCALLUM, ESQ., I.C.S.	R. C. J. SWINHOE, ESQ.
U THEIN	SAN SHWE BU, ESQ.
MAJOR C. M. ENRIQUEZ	CH. DUROISELLE, ESQ., M.A.
U KYAW DUN, K.S.M.	U THA TUN AUNG, B.A.
TAW SEIN KO, ESQ., C.I.E.	J. A. STEWART, ESQ., I.C.S.
H. F. SEARLE, ESQ., I.C.S.	CAPT. G. H. M. MEDD.
DR. O. HANSON.	U THA KIN.
	G. E. HARVEY, ESQ., I.C.S.

*Members of the Sub-Committee.

THE RHYOLITES AND RHYOLITE TUFFS OF THATON DISTRICT, LOWER BURMA.

BY

H. L. CHHIBBER, M.Sc., F.G.S., F.R.G.S.,
Lecturer in Geology and Geography, University College, Rangoon.

(WITH PLATES I-III.)

CONTENTS		Page.
I. Introduction and Previous Observers	...	166
II. General Geology of the Area	...	167
III. Petrography of the Volcanic Rocks	...	169
IV. Comparison of the Rhyolites of Thaton with those of Pávágad, Khathiawar, Malani, Bawdwin, Kyaukpadaung (Mt. Popa) and the Lower Chindwin.		171
V. Tectonics	...	172
VI. Age	...	173
VII. Summary and Conclusions	...	173
VIII. References	...	174
X. Explanation of Plates and Photomicrographs	...	175

I. Introduction and Previous Observers.

The present communication forms the fifth instalment of the series of papers on the volcanic and allied rocks of Burma. (Stamp and Chhibber 1925, [1] Pinfold, Day, Stamp and Chhibber 1926, [2] Chhibber 1926, [3] 1926a [4] Chhibber and Wadhwana 1927 [5] and Chhibber 1927a [6]). As with its predecessors, the work was done under the auspices of the University of Rangoon and the author wishes to thank that body for a research grant for 1926-27 out of which expenses were defrayed for laboratory work concerning this communication.

The only reference to this area occurs in a general Report in *Rec Geol. Surv. Ind.* Vol. XL. Pt. 2, p. 107, where a mere mention of volcanic (probably rhyolitic) rocks has been made on the basis of P. N. Datta's work. The writer took the opportunity of investigating this area in the course of a visit to the Mokpalin Government quarries. In passing it may be mentioned that the petrography of the rocks of these quarries is very interesting. They not only include several types of granitoid gneiss but small dykes of lamprophyric rocks are also seen penetrating the former which present an absorbing interest to a petrologist. The writer in a cursory examination of these rock-sections has observed hornblende-lamprophyres, etc. So far as the author is aware no such rocks have been described from Burma before. An account of them will be shortly published separately.

The area is situated in the township of Sittang, Thaton District, and is about $7\frac{1}{2}$ miles to the east of the Mokpalin Railway Station situated on Rangoon-Moulmein Railway line. The locality lies in the

north-east corner of the one-inch map sheet No. 94 G3 & 7, (Old No. 353). The band of lava runs for at least six miles in north-south direction and continues on to the north in the unsurveyed territory. One of the southern-most hills of the band of volcanic rocks is marked .500 on the above-mentioned map-sheet. The band of volcanic rocks lies between lat. $17^{\circ} 25'$ and $17^{\circ} 30'$ N and long. $97^{\circ} 2'$ E.

II. General Geology.

The general geology of the area consists of the following formations:—

- (1) Alluvium.
- (2) Laterite and similar earth.
- (3) Rhyolites and Rhyolite tuffs.
- (4) Granites and Gneissose Granites.
- (5) Sedimentary series consisting of shales and sandstones partially metamorphosed, probably of carboniferous age.

It should be noted that the granites and the allied gneisses of this area do not all belong to the same age as grouped by Theobald in his Martaban group and some of them are older than the sedimentary series while some appear to be younger and may be intrusive into the shales and sandstones of this area.

The alluvium is very wide spread in this area and conceals the solid geology below it. It is generally argillaceous in character, being largely derived from similar sedimentary rocks. It only assumes a sandy character when produced by the weathering of granitic rocks.

Laterite or similar reddish or yellowish earth forms a cap on the igneous rocks, but occasionally on sedimentary rocks too. Its relations with regard to the underlying rocks are best seen at the Mokpalin quarries where beautiful sections have been exposed by the quarrying of the stone for road-metal. At the top is the layer of laterite about 10-15 feet thick (with hard boulders of the same) which is underlaid by clay having almost the same thickness. The latter merges into partially decomposed rock which is succeeded by the fresh and unaltered rock below. The area is situated in a monsoon area with an annual rainfall of about 190 inches, the whole of which falls from May to November after which follows a period of drought. During the rainy season meteoric water soaks into cracks and fissures and brings about the decomposition of felspar of granite and leaches some of the iron salts from it. Felspar is changed into kaolin or clay while quartz is simply disintegrated. During the dry season water is drawn up by capillarity and it brings salts of iron, etc., with it to the surface where they are ultimately deposited. The upper portions are thus coloured deep-red while the

CHHIBBER—THE RHYOLITES AND RHYOLITE TUFFS OF THATON DISTRICT.

underlying portion is stained red in patches which probably mark the passages of water through its upward journey. The surface layers or the boulders at the top get hardened on account of the escape of moisture due to the conversion of hydrated oxides into partially or totally anhydrous oxides. In this case the whole process of lateritisation depends upon the alteration of felspar into clay which is converted red by the iron salts. Quartz is either washed away in the form of sand grains; or small quartz pebbles are cemented by ferruginous matrix and partake in the formation of laterite. It seems to the author that water with dissolved iron salts in its upward journey seems to prefer clayey to arenaceous portions as the latter (comparatively rich in sand) are left unstained and are ultimately washed away giving the common cellular appearance to laterite. So laterite in this case is merely an alteration phase of the underlying granitic rocks.

The eastern part of the area is occupied by a coarse grained granite which is porphyritic, gneissose in character and is not unlike an augen gneiss. The author examined this rock near Me Yon village and the specimens collected are not unlike those obtained from some of the P. W. D. quarries situated on the Sittang-Martaban road. It is probable that the same formation extends from here to Martaban.

The volcanic rocks of this area have overflowed the shales and argillaceous sandstones. The sedimentary rocks possess all shades of black, yellowish and reddish colours. At places they are highly metamorphosed and have almost changed into slates or argillites. They are very hard especially in the neighbourhood of lava. The shales are highly contorted, flexured and show high dips at places, becoming almost vertical *e.g.*, west of Kyauktaga gorge in Khawa Chaung. Sometimes the sedimentary rocks seem to dip towards the volcanic rocks. The strike of the sedimentary series is NNW—SSE.

It appears that lava has flowed over the contorted, upturned and denuded edges of the sedimentary rocks. Near the contact the shales are generally visible for a short distance (probably due to denudation) but these are hidden below the alluvium or lateritic earth.

In the south there are two hills east of Inkabo (east) village and from the north-western hill a narrow band of rhyolites and rhyolite tuffs extends northwards for several miles when it passes beyond the northern extremity of the one-inch sheet No. 94 $\frac{G}{3 \& 7}$ into the unsurveyed region. On account of the hard capping of volcanic rocks a low ridge, slightly broken at places forms the foot-hill of the Tenasserim Yomas. The width of the volcanic band is very small seldom exceeding half a mile and at places dwindles down to about 100 feet. The Khawa Chaung has cut a beautiful gorge in these lavas near Kyauktaga village and it is remarkable that the village derives its name from the existence of this gorge (Kyauk in Burmese = stone, taga = gate).

The tuffs seems to predominate but flows of true rhyolite are not absent though the latter are small and thin. The composition of tuffs is not different from that of the rhyolites only their origin is clastic.

III. Petrography of the Volcanic Rocks.

The rhyolites show various shades of light pink, light grey to almost greyish black and are generally very hard and sometimes break with splintery fracture. They usually exhibit flow structure which becomes very pronounced when the light grey and slightly pink bands alternate. The weathered surface has a reddish appearance but the rock is on the whole quite fresh.

The specimen numbered T/9, hammered from about $\frac{1}{2}$ a mile north-west of Kyauktaga village, is light grey in colour showing well marked banded and fluxion structure. The specific gravity is 2.59.

The thin section as seen under the microscope shows a fine crystalline mosaic of quartz and orthoclase felspar with a similar microcrystalline mosaic forming the groundmass which is holocrystalline. A few tiny microlites of muscovite are present. A few specks of magnetite are also to be seen. Some crystals show staining due to limonite. (Plate II, fig 1.)

Rhyolite.—Locality: $\frac{3}{4}$ mile north-east of Kyauktaga village. Specimen and slide numbered T/14.

Megascopically the rock is greyish black in colour and shows an excellent fluxion and banded structure on account of which a pseudoslate-like appearance is seen. The rock is very hard but is traversed by cracks along which it breaks with a splintery fracture. The specific gravity is 2.61.

Under the microscope the thin section is seen to consist of a microcrystalline mosaic of quartz and microlites of felspar and shows a typical flow structure. The rock is rather singular in showing irregular and imperfect crystals of magnetite which in places shows arborescent and branching aggregates. (see Plate 2, Figs. 2, 3 & 4.)

Muscovite Rhyolite.—Locality: one mile south-east of Kyauktaga village. Specimen and slide numbered T/8.

Megascopically the rock is bluish grey flinty rhyolite with fine vesicular structure. In the vesicles the secondary growth of silica has taken place. The specific gravity of the rock is 2.55.

Under the microscope the thin section is seen to consist of microcrystalline mosaic of quartz and orthoclase felspar. A few irregular flakes of muscovite are scattered in the section. Tendency to flow structure is well seen by the parallel arrangements of the mineral constituents. The section appears to be holocrystalline and has a uniform fine-grained texture absolutely devoid of phenocrysts.

CHHIBBER—THE RHYOLITES AND RHYOLITE TUFFS OF THATON DISTRICT.

Another thin section T/4 shows similar characters with the only difference that the vesicles have been filled with roughly hexagonal tablets of tridymite which under crossed nicols show a number of depolarisation bands.

The rhyolite tuffs show pinkish, yellowish, greyish to greyish black colours and are composed of fragments of rhyolite with a siliceous matrix. Sometimes the fragmental rocks include specimens of flow-breccia, etc.

Rhyolite-Tuff.—The specimen taken from near the Kyauktaga gorge in Khawa Chaung near Kyauktaga village is hard, tough, greyish rock with white veins of silica specially seen near the margin of the rock. It is slightly vesicular and vesicles are lined with minute crystals of silica.

The thin section is seen to consist of fragments of rhyolite, some of which show fibrous appearance, probably due to fluxion. (Plate III, fig. 1). Some pieces are composed of a very fine mosaic of quartz and microlites of felspar with a little glass while in others broken crystals of quartz and felspar are clearly embedded. Along the lines of flow are arranged blackish and brownish particles of probably magnetite and hematite respectively. The vesicles are lined with crystals of tridymite and in places the whole vesicle has been filled with a patch of such crystals.

Rhyolite-Flow-Breccia.—The specimen T/16 was hammered from about two miles north-east of Inkabo Kwin (east). The rock is rhyolite-flow-breccia in which dark fragments of rhyolite are welded together with a similar matrix and the flow structure is conspicuous. Fragments of baked shale are also enclosed on the sides. The specific gravity is 2.59.

The thin section is seen to consist of a very fine microcrystalline mosaic of quartz and felspar with some coarse-grained patches also. The remarkable point about this section is that it shows many streaks or irregular patches of colourless mica (sericite) which appears to have developed as a result of contact metamorphism or may be due to the assimilation of the sedimentary material. Irregular patches of a yellowish, somewhat fibrous mineral, are also distributed in the section which may represent palagonite (chlorophaeite?) or viridite, which is only partially acted upon by the polarised light. Bright red hematite is widely distributed in the section. Another section T/10 shows similar characters. The brownish red colour of the section is due mainly to hematite with a little limonite. (Plate III, fig. 4).

Tuffaceous Rhyolite.—Locality: One mile south-east of Kyauktaga village. Specimen and slide numbered T/1.

Megascopically the rock shows grey colour with a network of veins of whitish chalcedony. In the vesicles and other interstices have developed perfect crystals of quartz which are sometimes coated with iron ores. The specific gravity is 2.54.

The thin section under the microscope is very interesting in showing pale yellow bands of chalcedony running in all directions

(See Plate 3, Fig. 2). It appears that thermal waters containing silica and iron salts percolated along the vesicles and interspaces between the different fragments. So rings of chalcedony are seen round the fragments of rhyolite which consist of cryptocrystalline mosaic of quartz and felspar. Colourless aggregates of crystalline quartz have been deposited in the vesicles.

The thin section T/15 also consists of fragments of rhyolite showing fluxion structure while individual broken crystals of quartz and fragments are also present in a siliceous matrix. The main feature of the rock is that the vesicles have been lined with chalcedonic silica and iron ores. The chalcedony shows the usual banded structure as seen in the previous slide also and both hematite and magnetite occur though the former is present in much larger quantities on account of which the section shows brownish black colour. A little viridite with pale green colour and fibrous form is also present. The rock has undoubtedly undergone silicification. The specific gravity of the rock is 2.33.

Ferruginous rhyolite tuff. Locality : one mile south-east of Kyauktaga village. Specimen and slide numbered T/11. (Plate III, fig. 3).

The hand specimen is greyish black in colour with brown patches. The specific gravity of this rock is 2.57. The thin section as usual is seen to consist of fragments of rhyolite which show excellent streaked and fluxion structure. They consist of very fine microcrystalline mosaic of quartz, felspar and hematite. The rock appears to have undergone considerable hematitisation and silicification after consolidation. In places patches of bigger crystals of quartz are to be seen, which is secondary.

IV. Comparison of the Rhyolites of Thaton to those of Pávágad, Kathiawar, Malani, Bawdwin, Kyaukpadaung (Mount Popa) and the Lower Chindwin.

It may be advantageous to compare similar rocks described from India and Burma. These include rhyolitic lavas from Pávágad (Fermor 1906), Kathiawar (Feddou 1885) Malani (La Touche 1902) and Bawdwin (La Touche and Coggin Brown 1913) Kyaukpadaung (Chhibber 1926) and the Lower Chindwin (*op. cit.*) The first two belong to Deccan trap age (uppermost Cretaceous to lower Eocene) while the third is definitely Archaean. Dr. Fermor has described the rocks of the Pávágad hill and shows that they are more basic in character and differ in the following points from the Malani rocks.

(a) "Quartz phenocrysts are much more frequently absent in the lavas of Pávágad than in those of Malani". It should be noted here that the lavas under description are almost wholly devoid of phenocrysts. The bigger crystals seen sometimes filling the vesicles are of secondary origin.

(b) "The felspar phenocrysts are often plagioclastic, frequently as basic as sanidine in the Pávágad rocks while they are almost orthoclastic in Malanis". The present author could not see any trace of plagioclase felspar in the slides described above and the felspar present is untwinned orthoclase.

(c) "Augite phenocrysts are of fairly frequent occurrence in the Pávágad rhyolites and completely absent except for one doubtful exception noticed by Mr. La Touche in the Malanis". No phenocryst of any other ferromagnesian mineral could be detected except muscovite in the Thaton lavas.

Acid volcanic rocks of almost the same age as those of Malani occur in Burma in the Bawdwin volcanic stage (*op. cit.*) which is no doubt older than Ordovician and offer many points of contrast to the lavas in question. The Bawdwin rhyolites exhibit flow, spherulitic and perlitic structures, corrosion of quartz phenocrysts, etc. The groundmass is always cryptocrystalline having probably undergone a certain amount of devitrification and sometimes exhibit the peculiar breaking up into irregular areas alternately light and dark, under crossed nicols known as a "quartz mosaic". The Bawdwin rhyolites resemble those of Malani in having a preponderance of quartz phenocrysts over those of felspar, and in the absence of plagioclase felspar and of augite. La Touche further remarks that the felspars of the Bawdwin rhyolites are usually decomposed both in the phenocrysts and in the groundmass and are represented by a fibrous felted mass (?) sericite which also fills cracks in the groundmass; sometimes the outlines of the crystal are still preserved and in some cases traces of simple twinning are still visible. No trace of ferromagnesian minerals or of mica was observed in the Bawdwin rhyolites. But the writer's slides did not reveal any spherulitic and perlitic structures; nor were these structures observed in the similar rocks from Mount Popa and the Lower Chindwin. In none of these late Tertiary rhyolites described from Burma (*op. cit.*) were any well marked quartz and felspar phenocrysts observed. With regard to the decomposition of the felspar of the Bawdwin rhyolites the present rocks are quite unaltered. Though no other ferromagnesian mineral has been observed however, muscovite is present in several slides from the present area.

Hence it would appear that the Thaton lavas present a marked contrast to those of the Pávágad lavas and are undoubtedly more acidic in character. They also differ from the Malani and Bawdwin rhyolites and their points of divergence have been outlined above. But it is very remarkable that the Thaton rhyolites appear to form a suite of their own with the Kyaukpadaung (*op. cit.*) (Mount Popa region) and Lower Chindwin rocks (*op. cit.*) with which they seem to resemble in every respect.

V. Tectonics.

The volcanic rocks from their north-south linear arrangement (See Geol. Sketch map Plate I,) appear to have erupted along a strike fault

in the sedimentary rocks produced probably as a result of folding and faulting of the Tenasserim Yomas, which are merely a southern continuation of the Shan Plateau. The volcanic ejectamenta may be only a superficial phase of the deep seated intrusions seen in the neighbourhood. The volcanic line on which this area lies appears to pass along the edge of the Shan Plateau on which the volcanoes of the Kabwet and Malé area [1] are situated in the north and those of some of the outer islands (Elphinstone, Ross, etc.) [6] of the Mergui Archipelago in the south. The basaltic rocks of the Kabwet area have already been shown to be connected with a fault passing along the edge of the Shan Plateau. The ridge formed by the capping of lava also forms the first foot hills, or in other words, the edge of the Tenasserim Yomas to the east.

VI. Age.

There is no means of telling the exact date of eruption of these rhyolitic lavas. They have overflowed the sedimentary rocks which are presumed to be of carboniferous age, so it can be said that they are at least post-carboniferous in age. But from absolute freshness, and from their great similarity with the rhyolites and tuffs of Mount Popa and the Lower Chindwin regions, it may be surmised that the rocks under description may be contemporaneous with the above, about the late Tertiary age of which there is not a shadow of doubt.

VII. Summary and Conclusions.

The present communication, which gives an account of the rhyolites and rhyolite tuffs near Mokpalin, Thaton District, forms the fifth instalment of the series of papers on the volcanic rocks of Burma. The band of volcanic ejectamenta runs for at least six miles in the north-west portion of the one-inch-sheet No. 94 G/3 & 7 and continues on to the north in the unsurveyed territory.

The volcanic rocks which comprise rhyolites and rhyolite tuffs have overflowed the shales and argillaceous sandstones, probably of carboniferous age. The sedimentary rocks, especially in the vicinity of lava are highly metamorphosed. The strike of the sedimentary rocks (NNW-SSE) and the rhyolites and tuffs remarkably coincides. On account of the hard capping of volcanic rocks, a low ridge, slightly broken at places forms the foothill of the Tenasserim Yoma.

The tuffs seem to predominate but flows of true rhyolites are not absent though the latter are small and thin. The composition of the tuffs is similar to those of the rhyolites, only their origin is clastic.

The rhyolites show various shades of light pink, light grey to almost greyish black colour and break with a splintery fracture. The flow structure is commonly seen in groundmass, which is holocrystalline. A few tiny microlites of muscovite are present.

CHHIBBER—THE RHYOLITES AND RHYOLITE TUFFS OF THATON DISTRICT.

The rhyolite tuffs show pinkish, yellowish, greyish black colours and are composed of fragments of rhyolite with a siliceous matrix. Specimens of rhyolite-flow-breccia are also present among the tuffaceous rocks. Petrology of these rocks as observed under the microscope has been described in the paper.

The Thaton lavas have been compared with similar rocks of Pávágad, Kathiawar, Malani, Bawdwin, Kyaukpadaung (Mt. Popa Region) and the Lower Chindwin. The rhyolites described in the present paper present a marked contrast to those of Pávágad and Kathiawar lavas and are undoubtedly more acidic in character. They also differ from the Malani and Bawdwin rhyolites and their points of divergence have been recorded. But it is very remarkable that the Thaton rhyolites appear to form a suite of their own with the Kyaukpadaung (Mt. Popa Region) and Lower Chindwin rocks, with which they seem to resemble in every respect.

The volcanic rocks from their north-south linear arrangement appear to have erupted along a strike fault in the sedimentary rocks produced probably as a result of folding and faulting of the Tenasserim Yoma which is merely a southern continuation of the Shan Plateau. The volcanic line on which this area lies appears to pass along the edge of the Shan Plateau on which the volcanic and doleritic rocks of the Kabwet and Malè area are situated in the north and those of some of the outer islands (Elphinstone, Ross, etc.) of the Mergui Archipelago in the south.

As regards the age of the lavas, they have overflowed the sedimentary rocks which are presumed to be of carboniferous age, so it can be said that they are at least post-carboniferous in age. But from their absolute freshness, and from their great similarity with the rhyolites and tuffs of Mount Popa and the Lower Chindwin regions it may be surmised that the Thaton Lavas may be contemporaneous with the above, about the late Tertiary age of which there is not a shadow of doubt.

VIII. References.

- [1] Stamp, L.D., & Chhibber, H. L. (1925). The Igneous and associated rocks of the Kabwet area, Mandalay and Shwebo districts Burma. *Trans. Min. Geol. Inst. India* xxi.
- [2] Pinfold, E.S., Day, A.E., Stamp, L.D. and Chhibber H.L. (1926). The late tertiary Igneous rocks of the Lower Chindwin Region. *Trans. Min. Geol. Inst. India* xxi.
- [3] Chhibber, H. L., (1926). The Petrography of the Igneous Rocks of Mount Popa Region, Burma. *Trans. Min. Geol. Inst. India* xxi.
- [4] (1927). The Intrusive Rocks of the Pegu Yomas. *Ibid.* xxi (in press).
- [5] Chhibber, H.L., and Wadhvana, M.M., The Volcanic Rocks near Tu Myaung, Myaungmya district, Lower Burma (Ready for communication to the *Trans. Min. Geol. Inst. Ind.*)

[6] Chhibber, H.L., Some of the Volcanic and associated Igneous Rocks of the Meigui Archipelago (Ready for communication to the *Trans. Min. Geol. Inst. Ind.*)

[7] Theobald, W., (1873). The Geology of Pegu, *Mem. Geol. Surv. India* x.

[8] Fermor, L.L., (1906). On the Lavas of Pávágad Hill, *Rec. Geol. Surv. India* xxxiv. 148-166.

[9] Feddon, F., (1885). The Geology of Khatiawar, *Mem. Geol. Surv. India* xxi. 96-99.

[10] La Touche, T.D.H., (1902). Geology of Western Rajputana, *Mem. Geol. Surv. India* xxxv. Pt. 1.

[11] La Touche, T.D.H., and Coggin Brown, J., (1913). The silver lead mines of Baydwin, Northern Shan States. *Rec. Geol. Surv. India* xxxvii. 235-263.

IX. Explanation of Plates and Photomicrographs.

Plate 1.

Geological Sketch-map showing the position of Rhyolites and Rhyolite tuffs.

Plate 2.

Fig. 1. Rhyolite showing mosaic of quartz and felspar (under crossed nicols).

Fig. 2. Rhyolite showing flow structure and skeletal crystals of magnetite.

Fig. 3. Rhyolite showing flow structure and skeletal crystals of magnetite.

Fig. 4. The same as above but highly magnified to show the forms of skeletal crystals of magnetite.

plate 3.

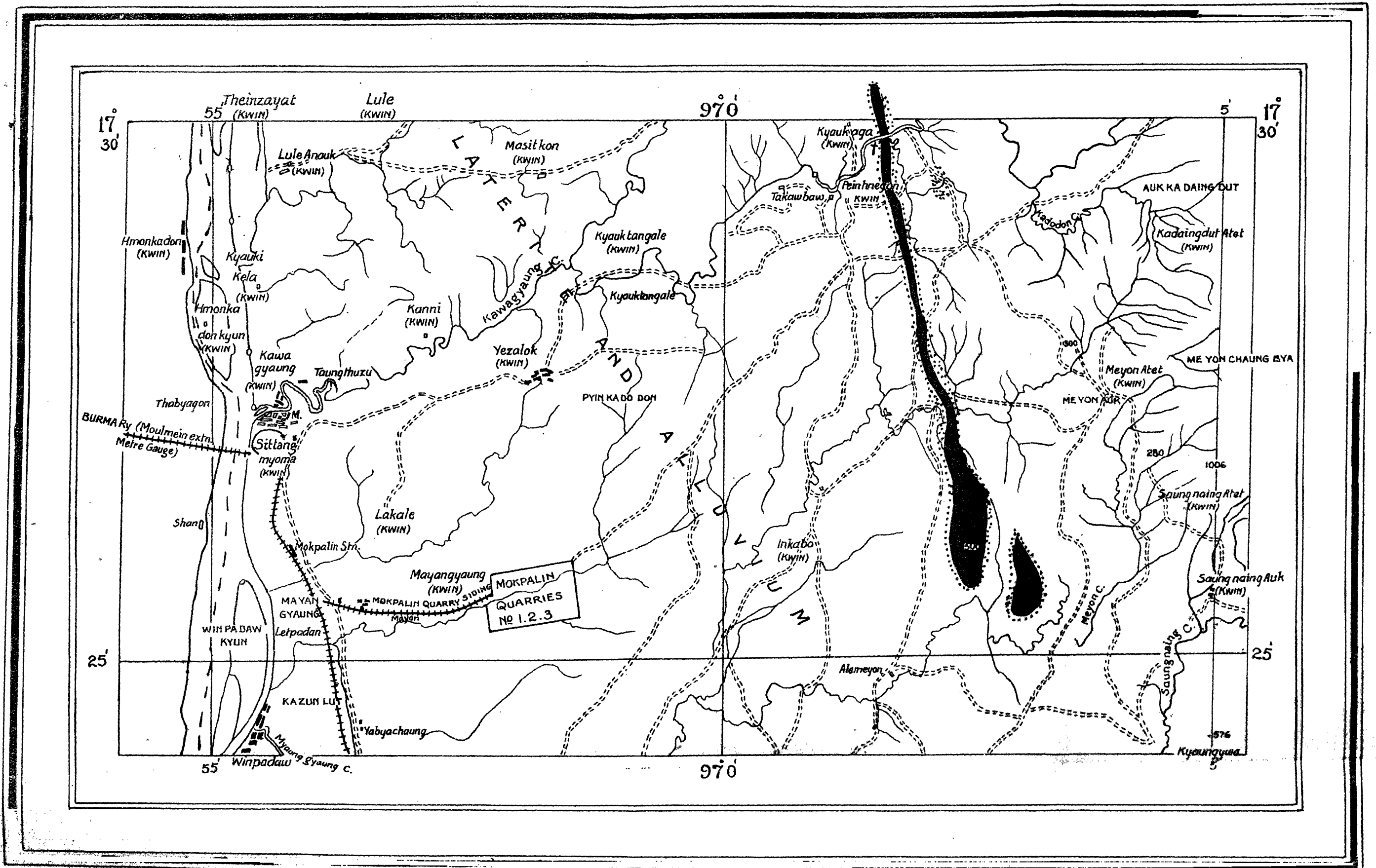
Fig. 1. Tuffaceous rhyolite.

Fig. 2. Rhyolite tuff showing bands of chalcedony.

Fig. 3. Ferruginous rhyolite tuff. The dark colour is due to the presence of magnetite and hematite.

Fig. 4. Ferruginous rhyolite tuff. The dark colour is due to hematite with a little limonite.

- Rhyolites and Rhyolite Tuffs
 ■ Sedimentary series (Carboniferous)



H. L. Chhibber

Geological Sketch-map showing the position
 of Rhyolites and Rhyolite Tuffs.

PLATE II.

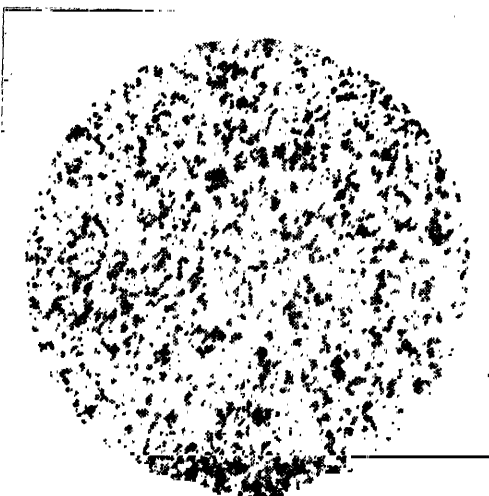


Fig. 1.

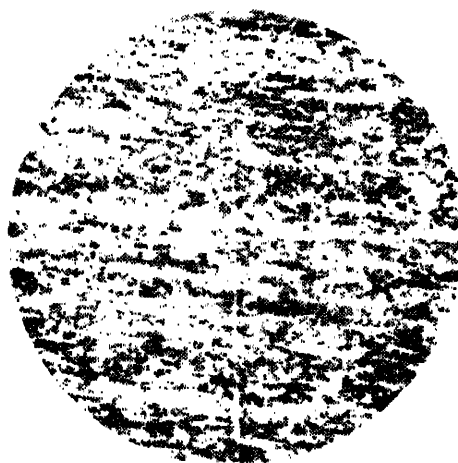


Fig. 2.



Fig. 3.

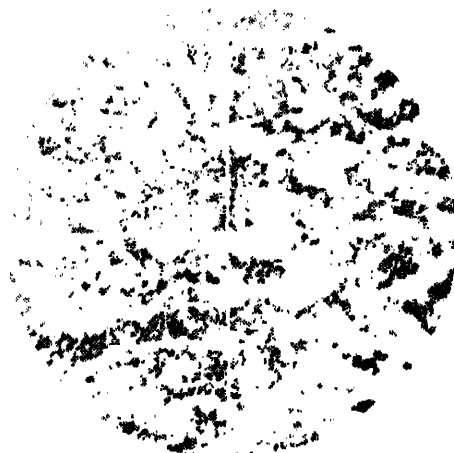


Fig. 4.

PLATE III.



Fig. 1.

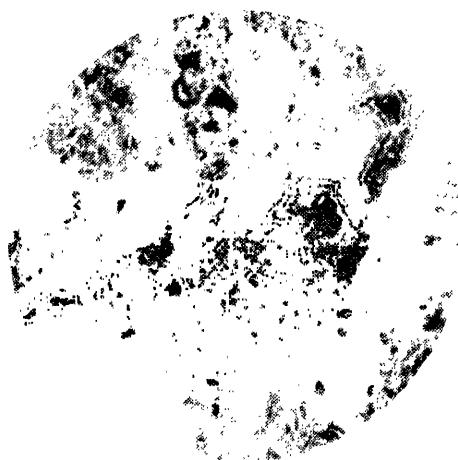


Fig. 2.

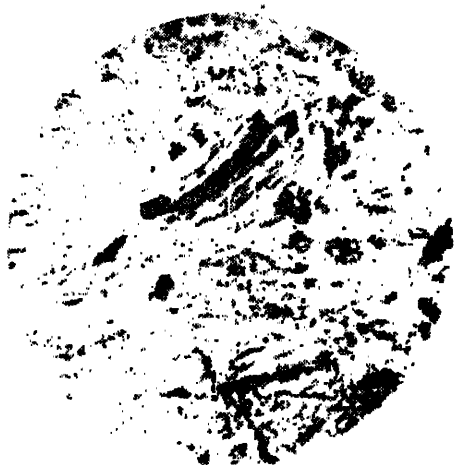


Fig. 3.

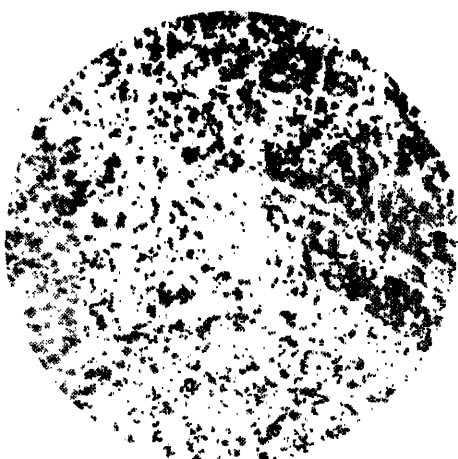


Fig. 4.

THE SERPENTINES AND THE ASSOCIATED MINERALS OF HENZADA AND BASSEIN DISTRICTS, BURMA,

By

H. L. CHHIBBER, M.Sc., F.G.S., F.R.G.S.,
Lecturer in Geology and Geography, University College, Rangoon.

(With Plates IV—IX.)

CONTENTS.					Page.
I.	Introduction	...	...	...	176
II.	Physical Geography	...	...	...	177
	(a) Physical Features	...	...	...	177
	(b) Flora	...	...	...	177
III.	General Geology	...	...	...	178
IV.	Serpentine Intrusions	...	...	...	181
V.	Petrography	...	...	...	183
VI.	Contact effects	...	...	...	189
VII.	Tectonics	...	...	...	190
VIII.	Age of the Intrusions	...	...	...	190
IX.	Economic Geology :—	...	...	...	193
	(a) Chromite	...	...	...	193
	(b) Pyrites	...	...	...	194
	(c) Graphite	...	...	...	195
	(d) Coal	...	...	...	196
	(e) Road-Metal and Building Stones	...	...	...	196
	(f) Serpentine and Soap-stone	...	...	...	196
X.	Summary and Conclusions	...	...	...	197
XI.	Bibliography of the Indian Serpentine and Associated rocks	...	...	...	197
XII.	Explanation of Plates and Photomicrographs	...	...	...	199

I. Introduction.

The Serpentine intrusions described in this paper occur in Henzada and northern part of Bassein District. Theobald (3) mapped them on 1 in. = 8 miles scale in the sixties of the last century. But he had the great disadvantage of a small scale old map and consequently the position of some of the patches shown on his map is incorrect. The size of some of the intrusions is also to be taken with great reserve as in certain cases double the size of the intrusion shown on his map would represent the true size on the one inch = a mile scale. References to Theobald's work will be made later on. Dr. Murray Stuart (22) has surveyed the geology of Henzada District, but it appears to the author that Murray Stuart did not traverse the serpentine intrusions in detail as only four patches are shown on his map. Not only are the serpentine intrusions shown on that map incomplete but they are sometimes misleading, as the patches are terminated in cases in the middle of the intrusion, thus indicating that no serpentine exists beyond what is marked on the map. But it was often found that the serpentine rock

extended further than was shown. The same author in the text has devoted a paragraph to the serpentine in which he says: "These masses of serpentine are fully described by Theobald and their position is marked on his map. They do not call for any special mention beyond what has already been given by him". The petrology of these intrusions has never been described before.

The writer spent the whole month of October, 1925, in detailed investigation of the serpentines and mapped them geologically on a scale of 1 in. = 1 mile, so far as the maps were available. It is very unfortunate that the rest of the area has not been surveyed yet.

The petrographical investigation was carried out in the Department of Geology, University College, Rangoon, where specimens and slides described in this paper have been preserved. The author wishes to thank the University College, Rangoon for financial aid for carrying out the field-work. Thanks are likewise due to the University of Rangoon for a research grant for 1926-27, out of which expenses were defrayed for laboratory work concerning this paper.

Area and Extent.—The intrusions of serpentine extend over exactly 26 miles from north to south and roughly occupy an area of about 200 square miles. They lie within latitude $17^{\circ} 24'$ and $17^{\circ} 47'$ north and longitude $94^{\circ} 56'$ and $95^{\circ} 3'$ east.

II. Physical Geography.

(a) *Physical Features.*

The serpentines occur as foot hills on the eastern flank of the Arakan Yomas. Being intrusions they are generally to be seen on the upper slopes, where denudation has removed the upper covering. They occur as bosses forming domeshaped hills (see Pl. 6, fig. 12) e.g., Kywetahndaung and its continuation hills. Sometimes they occur as long ridges e.g., Bagan Gwè-taung ($1034\frac{\Delta}{\Lambda}$).

The last intrusion in the Bassein District occurs on perfectly flat ground, mostly occupied by the Plateau gravel on the east.

The Sitsayan Shales and alluvium, on account of their soft nature occupy low ground, while the other rocks, being more resistant, stand at much higher levels forming a part of the Arakan Yomas.

(b) *Flora.*

The vegetation of the serpentine intrusions gives clear proof of the close relationship of the former with geology and soil. The flora of the serpentine masses stands out by itself and a change in it indicates at once

CHIBBER—SERPENTINES AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

the termination of the rock. It is very remarkable that in the northern half covered with long grass *In* (*Dipterocarpus tuberculatus*) is the characteristic tree. All varieties of bamboo (which flourish so well on the Negrais rocks) are typically absent from the serpentines except "*Myinwa*" (*Dendroclamus strictus*). In the north, as mentioned above, a little "*Myinwa*" is associated with "*In*" at places, but south of latitude $17^{\circ} 37'$ north it is the only characteristic tree, growing on the serpentine, so much so that the presence and extent of *Myinwa* will indicate the presence and extent of serpentine. If one tells a local villager to take him to *Myinwa* taung, he will at once lead him to the serpentine hill. The writer was extremely impressed with the ecological relationships of *Myinwa* with the poor and scanty red soil yielded by the serpentines.

The important trees of the Negrais rocks are *Kyun* (*Tectona grandis*) *Pyinkado* (*Xylia* Sp.), *Kyetyo*, *Myaukchaw* (*Homalium tomentosum*) *Seikchi* (*Bridelia* Sp) and *Wa*. It is noteworthy that no *In* (*Dipterocarpus tuberculatus*) exists on the Negrais rocks. The soil yielded by the Negrais rocks is a sandy loam, but often there is an intermixture of both arenaceous and argillaceous material, on account of both sandstones and shales occurring together. It appears that such a soil favours a very dense growth of bamboo as is evidenced in the case of Plateau gravel also.

The vegetation on the Sandstone series comprises the following trees as observed south of Kyibin (East of Δ 1034), *Wa*, *Thitya* (*Shorea obtusa*), *Yon*, *Yamane* (*Gmelina arborea*) *Gwè* (*Spondias mangifera*), *Nabè* (*Odina wodiari*) *Kaung* (*Manglietia insignis*), *Gyo* (*Schleichera trijuga*). No *In* (*Dipterocarpus tuberculatus*) and a little teak flourishes on this sandstone series in this area. The trees as seen southwest of Wadawkwin are *Thaukkya* (*Vitex glabrata*), *Pyinkado* (*Xylia* Sp.), *Yon*, *Myaukchaw* and *Gwè*. The Sitsayan shales mostly occupy low ground and are generally occupied by *Kwins* (blocks of rice fields). The characteristic trees are *Kyun* (*Tectona grandis*), *Sha* (*Acacia Catcheu*) (observed only south of Kwingyi), *Thaukkya* (*Vitex glabrata*) and *Gwè* (*Spondias mangifera*).

The vegetation of the Plateau gravel comprises the following trees : *In* (*Dipterocarpus tuberculatus*), *Thitya* (*Shorea obtusa*), *Thabye*, several kinds of bamboos and grass.

III. Geology of the Area.

The following geological formations are met with in the area :—

Alluvium	....	....	Recent.
Plateau gravel	....	....	Pleistocene and Recent.
Sitsayan shales	....	....	(Peguan in age) Oligocene.
Sandstone series	....	....	Provisionally Eocene.
Negrais Rocks	....	....	Cretaceous.
Serpentine Intrusions	....	....	Late Cretaceous to early Eocene.

Alluvium.—Alluvium is wide spread on the eastern and southern part of the area and consists mostly of a wash from the Sitsayan shales, Plateau gravel and other rocks.

Plateau Gravel.—The Plateau gravels consist mainly of siliceous pebbles interspersed in finely disintegrated material, approaching coarse sands. The pebbles are generally small, less than three inches in diameter, but in places boulders, exceeding a foot or more, are not wanting. Where the Plateau gravel caps the Sitsayan shales, naturally a little clay is also intermixed with the sand. Sometimes hard boulders of laterite, with siliceous pebbles (*e.g.* south of Wadawkwin on the Legonywa road), are also to be seen.

The siliceous pebbles are derived from the older formations, that is from the Negrais Region, Nummulitic sandstones and the serpentines, as the water-worn pebbles of rocks enumerated above are definitely seen partaking in the constitution of the Plateau gravel. They consist largely of pebbles of Nummulitic sandstones of various colours and black, hard indurated shales, sandstones, quartzites and quartz girts belonging to the Negrais series. Subangular pieces of quartz are also found, which have been derived from the serpentine intrusions. They generally overlie the Sitsayan shales unconformably. But they are also seen abutting against the Nummulitic sandstone series and occasionally against the Negrais rocks. No fossil wood was observed in the Plateau gravel.

The Plateau gravels are generally undisturbed but at one or two places they showed dips, indicating that they have been affected by the Pleistocene earth-movements.

Sitsayan Shales.—The Sitsayan shales, although designated as such by previous workers, really consist of blue clunchy clays, which assume a very pale colour on drying. In places they present a red mottled appearance on account of disseminated iron salts. Occasionally a few septarian nodules can also be picked up. The internal core of these septarian nodules consists of grayish argillaceous limestone, while the exterior border is made up of greenish calcareous clay.

The clays are mostly massive but at a few places, *e.g.*, about one and a half miles east of Wadawkwin, dips can be observed.

Towards the top of the shales, or almost at the junction of the Sitsayan shales and the Nummulitic sandstones series, a fragmentary band of limestone was observed, about two miles north of Wadawkwin, on the Kyibin road. Thin sections of the limestones revealed the presence of *Lepidocyclus*. The writer hopes to study them in detail in the future.

CHIBBER—SERPENTINES AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

Nummulitic sandstone series.—The Nummulitic sandstone series consists mainly of sandstones. The colour of the fresh rock is bluish-grey, but on weathering various shades of yellowish, grayish, grayish-yellow, reddish tints, etc., are assumed. The sandstones, towards the base, pass into quartz grits, as at two miles WNW. of Wadawkwin *en route* Myabintaung. The rock is well bedded and often traversed by jointing, as a result of which it falls into polygonal blocks. At a few places these sandstones enclose beds of shale which enclose seams of impure and friable coal. The shales have been converted into schists with the formation of graphite, where they have been invaded by serpentine as for example at a little more than a mile south-west of Wadawkwin in the main tributary of the Kattu Chaung. The Sandstone series in this area attains a maximum width of a little over two miles, *e. g.*, west of Wadawkwin. In the main tributary stream to the Kattu Chaung mentioned above, the best section of this series is exposed with rather high easterly dips. At first the dips are towards the north-east, sometimes becoming vertical and finally the beds dip towards the south-east, often at intervals pointing towards east-south-east and east. Mention may be made of the find of perfect crystal of gypsum, associated with these sandstones near Kyibin.

The series is characterised by carbonaceous markings which at times resemble impressions of leaves. Unfortunately their bad preservation does not give any decisive clue to their nature. However, some of the well preserved specimens in the collection show parallel venation and linear outline, simulating the leaves of the grass family (*Gramineae*).

Dr. Murray Stuart (22) recorded the following observation in his paper on the Geology of Henzada District: "Below the Sitsayan shales is the Sandstone series which has hitherto yielded no fossils other than carbonaceous markings. The exact position of this series is, therefore, difficult to fix with certainty." But the author has been lucky in collecting and cutting rocks belonging to this series which under the microscope have revealed undoubted remains of foraminifera some of which resemble Nummulites. It is intended to investigate these in detail later. This will fix the age of the series provisionally as Eocene.

Serpentina sandstone with fragments of volcanic rocks.—The thin section of the Sandstone specimen S37 (locality: Kattu Chaung, south of the letter "tu" of Kattu marked on the one inch map), consists of quartz, felspar and serpentine. The last mineral forms the great bulk of the rock and is of a light yellowish green colour. (Plate VII, fig. 2). In places it has decomposed with the separation of iron-ores showing that some masses of serpentine were already in position when the sandstones under description were being formed. It is very remarkable that the writer observed undoubted fragments of volcanic rocks showing trachytic arrangement of felspar laths (see Plate VII fig. 3) in several

slides of these sandstones. This will tend to prove the existence of some pre-tertiary volcanic rocks in the Arakan Yomas, probably of the same age as the serpentines. The writer has lately discovered a big area of volcanic rocks in the Irrawaddy delta, Myaungmya district. The rocks include several kinds of tuff and boulders of trachyte. In the oldest tuffs well preserved nummulites are to be seen.

The Negrais Series.—The Negrais series consist of yellowish and greyish sandstones, quartz girts and highly indurated shales which become very hard and slaty in places. Black shales are very common, sometimes with carbonaceous markings, which are so characteristic of the Sandstone series described above. The series as a whole is highly indurated and submetamorphosed and is locally highly folded, crumpled, bent and contorted. Acute synclinal and anticlinal flexures are not uncommon while in places overfolding and thrust-planes on a small scale are also observed. Injections of compact and extremely fine-grained siliceous and cherty beds occur frequently, and, sometimes, a little calcareous material is also associated with these beds. It is noteworthy that these cherty beds are of inorganic origin as thin sections of these rocks, examined under the microscope, did not reveal the presence of any organisms. It is highly probable that the silica was deposited by thermal waters consequent upon igneous activity, which manifested itself in the form of the serpentines in question. It is probable that the silicification of some of the serpentines, as observed under the microscope, was brought about by the same agency. As will be shown later these rocks have been altered near their contacts. Sometimes typical chlorite and talc-schists are developed while elsewhere only induration, hardening and baking of the country rock is to be observed.

IV. Serpentine Intrusions.

Description of the Intrusions.—Twenty-three exposures of massive and schistose serpentine occur along a north-south line, that is, along the strike of the Negrais and Nummulitic rocks, with which the serpentine is associated.

The northernmost intrusion is the largest of all and extends over a length of four and a half miles with an average width of about half a mile though at places it slightly exceeds a mile. Murray Stuart on his map has shown this intrusion as occupying a length of about 2 miles and terminating half a mile south of the Taung Chaung, while that stream has cut a picturesque gorge in the serpentine at right angles to its general direction, about $\frac{7}{8}$ th of a mile north-west of Kyibin village. Theobald (3) has recorded on page 148 in his Memoir that "the first and largest display of this rock is a broad belt of it crossing the Nungathu stream". This stream is known locally as, and marked on the one inch map as the Taung Chaung, while the Nangkathu stream is at least 5 miles north of it. This intrusion comprises several distinct ridges and hills

CHHIBBER—SERPENTINES AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

which have local names of their own. Starting from the north the intrusions are briefly described below:—

- (1) West of Kyibin and Kyauktalon, lat. $17^{\circ} 43'$ and $17^{\circ} 47'$ N. and long. $95^{\circ} 1' 30''$ and $95^{\circ} 3' 15''$ E. The southernmost hill formed of this intrusion is locally known as Sandele taung and the ridge Δ_{1034} marked on the map is locally called Bagan Gwè taung while the northern-most hill 1192 is marked Kywetahnadaung (Plate 6, fig. 2).
- (2) (a) 654 marked on the map lat. $17^{\circ} 42' 30''$ N and long $95^{\circ} 1' 15''$ E is called locally Indaung taung. The outcrop runs in the Negrais rocks mostly in a northerly direction (NNW-SSE) with small offshoots forming low spurs. As usual, the rock is jointed simulating bedding in places.
 (b) The last intrusion continues across the small stream and is known as Myabintaung. Theobald appears to have shown (a) and (b) separately.
- (3) Setalontoung, 862 lat. $17^{\circ} 42' N$ and long $95^{\circ} 1' E$.
- (4) Shwedintutaung 609, lat. $17^{\circ} 41' N$. long. $95^{\circ} 2' 15'' E$. It is an elongated dome-shaped hill with an ENE-WSW elongation. The intrusion is surrounded by a well-marked aureole of metamorphism and on the south-eastern slopes chlorite schists are very clearly exposed. The rock is irregularly jointed and at places jointing becomes regular, for example on the south-eastern slopes, dipping at 18° (10° N. of East). Microdiorite was found associated with serpentine here.
- (5) Myinwataung and its southern continuation lat. $17^{\circ} 38' 45''$ and $17^{\circ} 40' N$. and long $95^{\circ} 1' 40'' E$.) The southern continuation of Myinwataung is known as Gyobintaung, about $1\frac{1}{2}$ mile NW of Kyeikkwin. The serpentine is very highly foliated at places, some fibrous asbestos and a little steatite occur as lenticles. A little chromite was also found. Near the contact Garnet and Amphibole-rocks occur.
- (6) Pingalinga taung, west of (5). 675, lat. $17^{\circ} 40' N$ and long. $95^{\circ} 0' 80'' E$. This intrusion crosses the Chingyaung, Chaung, a tributary to the Gyat Chaung. Here the black, carbonaceous Negrais shales have been metamorphised into a schist as a result of the intrusion of serpentine.
- (7) Δ 744 and 406 lat. $17^{\circ} 37' 30'' N$. and long. $95^{\circ} E$. A little chromite occurs associated with serpentine.
- (8) WSW of Kwingyi 642, lat. $17^{\circ} 37' N$ and long. $95^{\circ} 0' E$. Chromite is associated with this intrusion.

- (9) '473 Zeitaung lat. $17^{\circ} 35' 45''$ and long. 95° E. Here micro-diorite occurs as a marginal phase of serpentine.
- (10) North of Shwelaungyin, nodules of chromite occur associated with serpentine.
- (11) About $4\frac{1}{2}$ miles west of Chinle village, lat. $17^{\circ} 24' N.$ long $94^{\circ} 58' 35'' E.$
- (12) Just north of Kyet-Sha village near the junction of the two streams. The serpentine is schistose at the contact and the country rock has been altered into a talcose-schist. Theobald has not shown this mass and seems to have missed it.
- (13) and (14) West of Kwingalay village. Some light green soapstone (*Kingusan*) is found associated with serpentine.
- (15) and (16) About $3\frac{1}{2}$ miles west of Sinthè village.
- (17) About 4 miles west of Methalin.
- (18) WSW. of Methalin. The serpentine is schistose in character.
- (19) About 2 miles NNW. of Nyaungbintha village.
- (20) About one and one-third miles north-west of Nyaungbintha village. This patch seems to have been mapped along with (21) by Theobald but the writer observed undoubted Negrais rocks between (20) and (21)
- (21) About two-thirds of a mile west of Nyaungbintha.
- (22) A little over one mile south-west of Nyaungbintha.
- (23) About 3 miles west of Kya-Kat village.

V. Petrography.

The serpentine generally possesses a dark green colour, sometimes with blotches or streaks of apple-green tint. Not infrequently the rock is characterised by conspicuous, glistening crystals of bastite and sometimes the rock appears porphyritic. At times it is traversed by narrow veins of light green chrysotile or whitish steatite. Sometimes the serpentine is schistose at the junction but in places the whole mass has been foliated and the resultant rock is a soft, soapy schistose variety. It is, therefore, evident that powerful earth movements have affected the area since the date of intrusion.

Sometimes as a result of meteoric weathering the rock assumes a leek-green colour. This is often observed in water courses, etc. It has a pitch black or reddish weathering on the surface. The rock is highly jointed, as a result of which it cannot be used as an ornamental stone, though sometimes the coarse jointing becomes regular and simulates bedding. Petrologically the rocks represented by the serpentine of this area vary from wholly or partially altered peridotites, saxonites, and lherzolites to pure dunites. Interesting types like hornblende granulite and

CHHIBBER—SERPENTINES AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

hornblende-eclogite have also been described by the author from the area. At times microdiorite occurs at the periphery of the serpentine masses. The rock is called micro-diorite because of its fine-grained nature. But it should be noted that saxonite is the most prevalent rock in the area with which chromite is sometimes associated.

Serpentine after Dunite. *Locality.*—From the slopes of Setalontaung, specimen and slide numbered S/57.

Megascopic Characters.—The rock is of leek-green colour with blackish or brownish patches.

Under the microscope the thin section is seen to consist wholly of serpentine with a well marked mesh-structure. The iron ores, largely magnetite with a little haematite, have also separated. Spinel (Picotite) also appears to be present. The rock originally seems to have been dunite.

Locality : serpentine patch about $4\frac{1}{2}$ miles west of Chinle. Specimen and slide numbered S/151.

Megascopic Characters.—The specimen presents the usual green colour in which veins and patches of dark green material are seen. Crystals of fibrous bastite are also to be seen. The specific gravity is 2.49.

Under the microscope the thin section is seen to consist of two minerals: serpentine derived from olivine and bastite derived from enstatite. The rock however provides some evidence of silicification, as there are patches of serpentine, which seem to have been replaced by silica. They present a clouded appearance appearing whitish by reflected light and are isotropic. This change is also observed in several other slides. The silica may have as well been derived by the further alteration of serpentine. The slide is traversed by fibrous asbestos with bright polarisation colours and straight extinction and appears to be chrysotile. An opaque mineral of the spinel group, probably picotite, is also present.

Locality : About two miles NNW. of Nyaungbintha, specimen and slide numbered S/101.

The hand specimen is bluish-green or light green in colour with altered foliated bastite. Under the microscope it shows extensive silicification. Veins of chalcedony penetrate the rock in all directions. At places borders of the minerals have been replaced while the interior is left unaltered. Chalcedony has often been deposited along the cleavage cracks of the rock and the mineral being already fibrous, such injection of silica imparts a superficial appearance of twinning. A little original olivine is also seen with patches of magnetite.

Locality: From the second serpentine intrusion, w.s.w. of Sinthe. Specimen and slide numbered S/118.

The bastite in thin section shows wandering extinction and bent lamellae proving that the rock has been subjected to strain. The rest of the characters are of a serpentinised saxonite described above.

Locality. From Myabintaung, where serpentine begins.

Wholly Serpentinised
Saxonite.

The hand specimen is of a greenish-black colour and the specific gravity of the rock is 2.38.

Under the microscope the original rock is entirely altered into green serpentine with a little dark brown isotropic picotite. The former mineral shows a typical mesh structure an indication of its derivation from olivine but a few pseudomorphs exhibit a fibrous structure and are bastite.

The specimen S/63 hammered from the base of Setalotaung, besides showing the two usual kinds of serpentines (after olivine and enstatite), contains a fair quantity of an opaque mineral which may be either chromite or picotite. Associated with this dark opaque material is green isotropic pleonaste with a high refractive index.

Pale-brown Serpentine. Locality: South-eastern slopes of Δ 1192 marked on the one-inch map. Specimens and slides numbered S/312.

Megascopic Characters.—The rock is pale brown in colour with veins of greenish serpentine or steatite.

Microscopic Characters.—Under the microscope a thin section consists entirely of serpentine with a well developed mesh-structure; some of the meshes are brownish in colour. (Plate VIII, fig. 3). By reflected light the brownish colour appears to be due to limonite or haematite. It is very probable that either the rock has been acted upon by ferruginous solutions or vapours, or the further decomposition of the rock has resulted in the production of this light brown tint. Most of the light green veins which traverse the section in all direction are isotropic and may be steatite.

Locality.—About $2\frac{1}{2}$ miles south-west of Kyet Sha village, specimen and slide numbered S/140.

The thin section is characterised by banded veins of chysolite (Plate VII, fig. 4 and Plate VIII, fig. 1). In the centre of the veins there is a band of light green olivine, which in places shows the presence

CHHIBBER—SERPENTINES AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

of needle-like crystals of the same mineral projecting from the margin inwards. This is succeeded by pale yellow to dark brown bands which are fibrous in structure. Magnetite also occurs. It appears that these veins are of later origin than the main mass and these bands probably represent several stages of alteration.

Locality.—Near Katku-Chaung, about $1/3$ mile south-west of. 473, specimen and slide numbered S/184.

Megascopic Characters.—The rock is highly foliated and splits very easily along the foliation planes. It is light green in colour with dark patches.
Schistose Serpentine.

Microscopic Characters.—Under the microscope the rock appears to be highly schistose with a dark brown mineral probably picotite. It is remarkable for its dendritic growth which appears to be a direct result of metamorphism of the rock and is very probably due to iron ore (limonite) having been compressed along the foliation planes (Plate VIII, fig. 2). It may be due though to subsequent percolation of iron salts. In the section S/128 (about 2 miles NNW. of Nyaungbintha) brownish isotropic serpentine is seen with veins of anisotropic serpentine crossing it in all directions. In some cases the former has separated in circular or irregular spherules.

Locality.—From the main ridge Δ 1034, $3/4$ of a mile north-west of Δ 1034. Specimen and slide numbered S/294.
Peridotite.

The thin section consists of diallage and serpentine after olivine. The mineral is completely altered. Serpentine too, is isotropic in places. There is a great deal of dusty opaque material with the iron ores. As this appears to be whitish by reflected light, it may be opal (Plate VIII, fig. 4).

Another thin section S/122 (serpentine patch w.n.w. of Sinthe) shows the following minerals:—Serpentine after olivine, bastite after diallage containing veins of chrysolite.

Locality.—From the main ridge Δ 1034 west of Kyibin village.
Serpentine with talc. The thin section consists of serpentine with the characteristic mesh structure but with irregularly small stellated clusters of talc in addition.

Locality.—One mile north-west of Nyaungbintha, specimen and slide numbered S/98.
Serpentinised Lherzolite.

Megascopic Characters.—The rock is dark green in colour with large lustrous crystals of diallage. The specific gravity is 2.52.

Microscopic Characters.—Under the microscope a thin section is seen to consist of a very coarse granitoid aggregate of augite, enstatite

(bronzite at places), diallage and olivine with picotite. The augite is colourless and has an extinction angle of 47° . The enstatite is colourless and shows slight pleochroism at places (bronzite) with straight extinction. This mineral changes into fibrous bastite. In places the lamellae of bastite are bent and wandering extinction is seen, indicating that the rock has undergone some strain. An intergrowth of diallage and clino-enstatite is also observed. Brown picotite is present. All the above minerals have altered to serpentine enclosing kernels of the original minerals and with the liberation of magnetite (Plate IX, fig. 1).

A similar lherzolite has been described by Dr. Pascoe (23) from the Naga Hills. The specific gravity of the specimen described by him was 2.809. Probably the lower specific gravity in this case is to be explained by the almost complete serpentinitisation of the rock.

Hornblende-eclogite
and Garnet-rock.

Locality.—About $1\frac{1}{2}$ miles north-west of Kyeikkwin, associated with serpentine.

Megascopic Characters.—The rock is of a light pink to pale yellow colour and was found near the junction of serpentine associated with schists and probably represents a product of contact metamorphism. The specific gravity is 3.15.

Microscopic Characters.—The section consists mostly of pale and colourless garnets with a small quantity of a granular mosaic of quartz and felspar. In places the felspar shows a radiating fibrous arrangement. There is also present a reddish-brown mineral with fine cleavage and strong pleochroism which appears to be altered hornblende. The rock may be compared with the hornblende-eclogite described by Prof. Bonney (3a). The formation of eclogite in this case at once points to high temperature metamorphism under conditions of high pressure and differential stress that the rocks have undergone. Another specimen from the same locality is seen under the microscope to consist mainly of two minerals: garnet with a little colourless to pale coloured steatite which occurs in irregularly stellated crystals and is both isotropic and anisotropic. Some felspar is also present. In places the garnet is very slightly doubly refracting, a condition probably due to strain. The brown mineral, hornblende, is present in much smaller quantity in this slide, (Plate IX, fig. 2).

The specimen S/249, taken from about $1\frac{1}{2}$ miles north-west of Kyeikkwin, is very highly metamorphosed and is remarkable for containing felspar. At places the rock appears to be highly crushed and then consists of an irregular mosaic of hornblende and felspar (Plate IX, fig. 3). In other places the rock shows patches consisting of coarse aggregates of hornblende and felspar. At times the irregular mosaic of hornblende alone is to be seen which is undoubtedly a product of metamorphism and shows a

CHHIBBER—SERPENTINES AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

streaky and ragged appearance with pale green to reddish-brown pleochroism and appears to belong to the actinolitic variety. The rock, on the whole, presents a rich reddishbrown colour, perhaps due to the subsequent deposition of haematite. The specific gravity of the specimen is 2.80.

Locality: Near. 473, west-south-west of Zibinkwin. Specimen and slide numbered S/170.

Microdiorite. *Megascopic Characters:* The rock is of a grey colour with white felspar and brownish black hornblende. The rock has a medium texture. The specific gravity is 2.96.

Under the microscope a thin section is seen to consist of a microgranitoid aggregate of felspar and hornblende. The latter is light brown in colour and occurs in prismatic or hexagonal sections. The latter show a characteristic double cleavage. The mineral is pleochoric, and the pleochroism varies from light brown to deep brown. The extinction angle ZAC-axis is 21° . In places a greenish tinge is also to be noticed in the rock, but this is due to alteration, probably a change towards serpentinisation. In places fine needles of hornblende are also distributed in the felspar. The rest of the section is composed of felspar which is very largely saussuritised and is rendered almost opaque.

In places the hornblende has also been rendered opaque. No twinning can be observed in the felspar and hence nothing can be said about the species of the mineral (Pltae IX, fig. 4).

Sphene is also present in the rock, sometimes with characteristic lozenge-shaped outlines showing a very high refractive index and high polarisation colours.

It is noteworthy that a band of this rock was observed on the periphery of the serpentine intrusion, representing most probably the marginal phase of the intrusion as a result of magmatic differentiation. Other similar specimens numbered S/70 were found associated with the serpentine of Shwedintutaung. The specific gravity is 2.91. The thin section consists of the same two minerals, hornblende and felspar, but in this case the hornblende is a little more altered and in places shows a brownish-red colour due to haematite. The rest of the characters are similar to those of S/170, and do not call for any special mention.

Locality. About $1\frac{3}{4}$ miles north-west of Kyeikkwin.

Amphibole rock (Amphibolite of Lacroix.) *Megascopic Characters.* The rock is light green in colour with patches of dark green actinolite. It weathers into a reddish crust. Under the microscope the thin section is singularly interesting as it is seen to consist mostly of amphiboles—actinolite with some tremolite. The former is

strongly pleochroic, from pale to green in colour with its hexagonal idiomorphic outlines, characteristic double cleavage and pale to dark brown pleochroism with straight extinction. All these minerals have changed to serpentine (antigorite) with a little talc which occurs in stellated or fibrous aggregates.

VI. Serpentine Intrusions and their Contact Effects.

As already remarked these serpentine intrusions occur generally in the Negrals series but sometimes they have erupted into the Nummulitic sandstone series also. They often appear on the higher slopes, while the lower slopes are composed of the country rock. But the last patch (the southern-most occurrence) about three miles west of Kya-Kha village, occupies flat land. Roundabout the igneous intrusions there is a well-marked aureole of metamorphism, in which typical chlorite and talc schists are sometimes developed which are highly stained with iron salts occasionally, and then present various shades of red and yellow. At other places only induration, hardening, and baking of the country rock is to be observed. Theobald (3) remarked in his Memoir that "this difference in metamorphism is rather due to the composition of the invaded rocks than to any other occult cause". The author has studied this phenomenon very carefully in the field and has arrived at the conclusion that wherever the country rock consisted of shales, the schists were the result of metamorphism. When sandstones formed the country rock, however, there resulted only baking, hardening, induration and crushing. In places the sandstone, as a result of igneous action, has become hard enough to ring under hammer. This conclusion was arrived at as a result of the schists grading into the shales and the altered sandstones into normal sandstones. Not infrequently, as a result of the metamorphism of black carbonaceous shales, graphite has been formed and pieces of impure graphite-schist are not rare in the streams near the contact. In places the black schists on weathering and fracture yield blocks of rock, which simulate the trunks of petrified trees.

It appears that the serpentine is exposed as far as the overlying rocks have been denuded away. Sometimes the schists are seen covering the serpentine, as on a large occurrence of the latter, the former appear to intervene on the surface for short distances.

It is singular that a very great quantity of quartz is associated with these schists, the size of quartz boulders varying from a few inches to a few feet in diameter. Sometimes quartz is seen occurring in the form of veins. The author considers that the injection of so much quartz in the neighbouring schists is a phenomenon directly connected with the serpentine intrusions. It may be due to the differentiation of magma into ultra-basic (serpentine) and associated rocks on the one hand and ultra-acid (quartz) on the other. Sometimes perfect crystals of quartz are also to be observed, *e.g.*, at Myabintaung.

Dr. Stoliczka (1) also noted the association of quartz with the serpentines of Puga valley in the following words: "What is still remarkable and perhaps worthy of notice, are large spheroidal masses of quartz, which, in addition to numerous quartz veins, occur throughout the serpentine-rock." In this connection it is interesting to notice what Sir Thomas Holland (15) remarked in his Memoir on the "Geology of the neighbourhood of Salem, Madras Presidency: "There are many such examples of peridotite in South India largely altered to magnesite and they are often accompanied by masses of white quartz containing liquid carbonic acid. The association of two such extremes dunite and quartz is far too frequent to be merely fortuitous and it is not unlikely that the two are genetic relatives, the quartz representing the siliceous end-product of the eruption, which in the absence of alumina and alkalies, must consolidate as simple quartz instead of forming alumina-alkaline silicates".

VII. Tectonics.

The area, on the whole, forms a part of the eastern limb of this Arakan Yomas which constitutes a big geoanticline with several subordinate tight folds. The writer is of the opinion that the intrusions of serpentine are connected with the folding of the Arakan Yomas and their continuation of the hill ranges in the north. As graphically summarised by Dr. Coggin Brown (27) a belt of serpentine intrusions extends from the Andaman Islands in the south to the Patkoi range in the north. Intrusions of serpentine are also found in Prome and Thayetmyo Districts and, as Dr. Cotter has shown there are numerous out-crops of it in the Minbu and Pakokku Districts. They are known to extend further north into the Manipur and the Naga hills as investigated by Oldham (4) and Dr. Pascoe, (23) respectively. According to Bion (24) "the belt of intrusive serpentine which occurs along the boundary of the so-called Axials of the Arakan Yoma, Manipur and the Naga hills, extends to the west of the Tertiary basin and crosses the Chindwin river, a few miles above the Kyaukse rapids."

The serpentine extends further north still into the valley of the Dehing river as large blocks of this rock were seen by La Touche (6) who wrote. "I found none of the rocks *in situ* at the head of the Dehing. It must be brought down from the higher hills to the north of the river."

It appears to the author that all these serpentine intrusions lie on an important tectonic line running from the Patkoi range in the north to the Andaman Islands in the south. This is illustrated in sketch map Plate V.

VIII. Age of the Serpentine Intrusions.

The serpentines, described above, have been intruded as a rule into the Nagrais rocks, but in places they appear to bear the same relations

with the lower portion of the Nummulitic sandstone series (Eocene), a fact recorded by Dr. Murray Stuart also. It appears that the Nummulitic sandstones overlap across the Negrais series as one proceeds southwards and the writer thinks that igneous activity extended over some period from late Cretaceous to early Eocene. It is probable that while some masses of serpentine were already undergoing denudation, others were still to be erupted into the newly deposited Sandstone series.

It may be of advantage to review the geological age of the other serpentine deposits of Burma and India. Tipper (21) in his memoir has made the following remarks about the age of the serpentines of the Andaman Islands: "These rocks have been considered as intrusive into the Tertiary sediments. There is no evidence in support of this conclusion but a good deal to show that the serpentines are pre-Tertiary."

"Fragments and pebbles of serpentine often form part of the Eocene conglomerates of the North Andaman Island. The serpentines were therefore undergoing denudation while the Eocene conglomerates were being formed. The igneous rocks must be at least anterior to the sediments of Upper Ypresian or Lower Lutetian age considering the great intrusions of serpentines, peridotites, gabbros and diorites in Baluchistan and elsewhere in India are of Upper Cretaceous age. I think that similar rocks in the Andamans are of the same age. Also associated with the serpentine are rocks which I believe are in part of Lower Cretaceous age and into which the igneous rocks were intrusive."

It is very interesting and noteworthy that Oldham (4) found serpentines similar to those of Henzada and Bassein Districts in the Manipur and Naga hills. This perfect similarity of characters and position of the rocks, on which Oldham laid great emphasis, is most probably due to community of origin. With regard to the date of the out-burst of serpentine Oldham used the following words: "The date of this intrusion is as I have already said, posterior to that of the rocks to which I have assigned a triassic age, possibly also to those to which a cretaceous age has been attributed, and it is worthy of notice as an additional evidence that these rocks in which it is intrusive are not of Nummulitic age that in Pegu the trap is nowhere found intrusive in rocks of undoubtedly Nummulitic age and is hence probably of prenummulitic age." However, Oldham seems to follow Theobald in this matter, but reference to the latter's map shows that he (Theobald) marked one patch (lat. $19^{\circ} 1' N.$ and long. $94^{\circ} 58' E.$) just at the junction of the Negrais and Nummulitic series.

By reading carefully the description given by the late Sir Henry Hayden (12) it appears that serpentines are also intrusive into the Eocene rocks in Minbu District. "At about half a mile west of Shauktaung the sandstones are underlain by thick beds of shales with very finely laminated dark shales with occasional carbonaceous bands. In these shales occur

CHHIBBER—SERPENTINE AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

at first narrow bands of sandstone, and beneath these a thick bed of grey limestone, with *Nummulites* in places : as a rule, however, in this neighbourhood, the limestones have been altered to such an extent by outbursts of a dark green serpentine, that the fossils are not recognisable."

Dr. Murray Stuart (26a) found serpentine similar to those described by Oldham and Dr. Pascoe, intrusive into the Disang series. The age of the Disang series is not certain but it is regarded as equivalent of the part of the Negrais rocks of the Arakan Yoma. Murray Stuart wrote : "The youngest rocks that I know of at present that are traversed by serpentine intrusions are the coal-bearing sandstones of Henzada, which I correlated provisionally with the Laki Stage" (22).

As regards the geological age of the jadeite and serpentine of Tawmaw in Upper Burma, Noetling (9) believed that jadeite and serpentine penetrate the surrounding Tertiary sandstones but Bauer (9), from the petrological nature of the rocks and the amount of metamorphism they have undergone, regarded them as representing a member of the crystalline-schists, overlaid by Tertiary sandstones and probably denuded by erosion. The writer is of the opinion that it is always advantageous to rely on field-work on the question of geological age rather than to depend solely upon petrological characters, as the serpentines described in the present communication have also undoubtedly undergone dynamic metamorphism in places.

The following remarks apply to the geological age of the serpentine and other allied rocks found in India. Colonel McMahon (7) placed the following on record in connection with the eruptive rocks of the central Himalayas. "Dr. Stoliczka proceeds to detail the finding of Nummulitic fossils in the sandstones a little to the north of the Markha river, between Rumbag (Rumbak) and Skiin; and I further gather from his descriptions that the Peridotites of the Puga and Markha valleys are intrusive in sedimentary rocks of lower Tertiary age. Mr. Lydekker in his recent Memoir on Kashmir has also mapped the rocks at the mouth of the Puga river, and those a little to the north of the Markha river, as belonging to the Eocene period". Associated with these peridotites McMahon in the paper cited above has described diorites, intrusive into Nummulitic strata, north of Sirkia Hundes.

Similar serpentines and other igneous rocks are intrusive into the Tertiary rocks of Waziristan as described by the late Sir Henry Hayden (13). "The specimens about to be described form part of a collection made in Waziristan by Mr. Smith of the Geological Survey of India. They are to a great extent derived from dykes and intrusions occurring among the Tertiary beds of the Tochi valley and represent a very fine series of varying texture and basicity, varying from a compact and glassy porphyrite, through trachyte, basalt, dolerite and gabbro to serpentine and bronzite,

According to Smith (10), "the majority of the pebbles, even at Tochi village, are of diorites, gabbros and basic rocks. No indication of their being anywhere *in situ* is met with till one arrives within about three miles of Mahomed Khel. Here Lower Eocene limestones and shales are seen to rest abruptly but conformably on a series of beds and are doubtless part of the latter, which are altered by igneous action, but with evidence of having been interbedded with igneous rocks, which in many cases form massive intrusions in the former.

"In some cases the shales have undergone very slight alteration only, but unfortunately I have not found any traces of fossils in beds connected with the igneous rocks, as the only clue to the age of these beds rests on their relative position to other beds. On the west the igneous series is overlaid by the lower Nummulitic Dotoi beds with the bedding more or less parallel: on the east the Idak series of Lower Eocene rocks rests conformably on altered shale beds with igneous intrusions.

"Upper and perhaps middle Nummulitic beds directly overlay the igneous rocks between these two junctions; the disturbance in the basal beds makes it impossible to see from a distance what connection there is between the Upper Nummulitics and igneous series. It is singular that nothing but shaly beds should be found within the area of igneous disturbance. The natural conclusion to be drawn seems to be the supposition that igneous action, in the form of intrusions and deposition of ash-beds, began some time before the beginning of the Tertiary period; and lasted, with occasional variations causing interbedding up to the end of middle Eocene times." These words of Smith support very strongly, the foregoing remarks of the author.

Lately Dr. Fermor (28) has observed: "In Baluchistan, however, there are some large laccolite intrusions of chromiferous peridotite to which a Deccan trap age has been assigned." The age of Deccan trap has not been fixed with certainty but at any rate it is considered to be of Upper Cretaceous to Lower Eocene age.

From the foregoing discussion it will appear that the conclusion drawn as to the age of the serpentines is not erroneous. It appears true that the serpentine intrusions are, at least, of late Cretaceous age, but it is noteworthy that the igneous activity extended up to the early Eocene period. The igneous activity manifested itself either at the close of the Mesozoic period, or the beginning of the Tertiary period, probably about the time when the Arakan Yomas were first upheaved.

IX. Economic Geology.

(a) The most important mineral associated with these serpentine deposits is chromite. It is surprising that this mineral escaped the notice

CHHIBBER—SERPENTINE AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

of both Theobald and Dr. Murray Stuart. Besides the several minor occurrences at Myinwataung, and elsewhere it occurs at three localities where its economic possibilities are worth consideration. The first is about $1\frac{1}{4}$ miles south-west of Legonywa south, near Kwingyi, on the road from the Mezali Chaung. Leaving out of consideration the numerous small pieces, big boulders of chromite, more than a foot in diameter were found. Some of the boulders weighed about 150 lbs. and in about half-an-hour's time the author collected about 500 viss ($500 \times 7\frac{1}{2} = 1750$ lbs.) of ore. All this ore was found on the surface as a result of weathering and no definite lode was observed. From the study of other localities the author is of the opinion that chromite occurs as segregated patches in serpentine, which on weathering yield large and small pieces of pure mineral with a little serpentine. Chromite occurs associated with serpentine, etc. in a similar manner in Southern India and Baluchistan.

The other localities where chromite occurs in some quantity are Zeitaung 473, W S W. of Zibinkwin village and about $1\frac{1}{2}$ miles north of Shwelaungyin.

No true estimates of the quantity of chromite can be made without detailed prospecting operations. But these localities are believed to be worth further attention. The lack of easy communications and transport and the absence of any works in the country requiring the mineral are, at present, some of the difficulties in the way of mineral enterprise. According to Messrs. Steel Brothers, a ton of chromite is worth only Rs. 90 at Rangoon at the time of writing and, as remarked above, its occurrence in patches and the absence of good roads, are great hindrances in the way of its exploitation. However, the ore is sufficiently pure and contains about 57 per cent. of the chromium oxide against 68 per cent. as compared with the theoretical quantity.

(b) *Pyrites*.—The other mineral of economic importance, associated with serpentine is iron pyrites. The locality is about $4\frac{1}{2}$ miles south-west of Kwingyi and is locally known as Dok-hta Chaung (Dok-hta in Burmese = vitriol, chaung = stream). A lode of pyrites is associated with a vein of serpentine, which is intrusive in the Negrais shales and sandstones where they are very much altered at the contact and highly indurated. The pyrites lode has an average thickness of about six feet and runs roughly in a north-south direction, but I think, more in a north-east south-west direction. The lode crops out at four places in a distance of about quarter of a mile in a stream which is a tributary of the Kanazo Chaung and finally disappears beneath the Negrais rocks in the hills. At one place the known width of the lode was forty feet and it is hoped that on further cutting the width may become greater. At one or two places, beautiful sections of the lode with the overlying and underlying rocks are open to view in the stream channel (Plate VI, Fig. 1). Overlying the lode is the ferruginous cap or gossan, which consists of red ferruginous material

more clayey in nature. Intervening between the gossan and pyrites lode brownish black iron-ore, probably haematite mixed with magnetite, occurs, as octahedral crystals of the latter were observed on the surface of pyrites. There seems to be some copper pyrites associated with the mineral as pieces of malachite were also found there. Quartz, as usual, is also present, sometimes in a well crystallised condition. In places the lode is quite compact and massive but at others it is of a conglomeratic nature, i.e., small pieces of pyrites cemented by the same matrix.

The following is the chemical analysis of pyrites :—

Iron	...	...	42.84
Copper	...	...	1.68
Sulphur	...	...	45.42
Silica	...	...	10.08
			<hr/>
			100.02
			<hr/>

The area is held under mining lease by Mr. D'Attalides of Bassein, and the author met his manager Maung Po Than who assisted him in examining the ground.

It will appear from the above description that Theobald's remarks that the serpentine never occurs in veins does not hold good in this case as the pyrites lode is associated with an undoubted vein of serpentine.

It may be mentioned that this pyrites (Dok-hta) is used by the natives as a cure for tooth-ache, etc.

Pyrites also occurs in small isolated pieces in the Negrais rocks.

(c) *Graphite*.—Besides the numerous small occurrences of graphite-schist in the Negrais and Nummulitic rocks, two localities are important and deserve mention. The first is in the main tributary to Kattu Chaung a little over a mile south-west of Wadawkwin. The country rock is chlorite schist, in which both graphite and quartz occur as lenticles. Just above the point where the mineral vein crops out, a small water channel exists exposing this graphite-bearing schist for some distance above. Indeed graphite seems to be present to a height of about 75 feet. The quartz boulders increase as the hill is ascended.

The graphite seems to have originated by the contact metamorphism of an impure coal seam in a carbonaceous shale or sandstone. Boulders of the graphite-schist and sandstone are found side by side and there seems to be some quantity of impure graphite which cannot be of great value as it occurs in a fine state of intercalation with chlorite-schist and quartz.

Another locality, where graphite is found associated with schists, in the form of lenticles, is found a little more than a mile south of Kyibin, a little south-west of the road to Wadawkwin. The section of the schists

CHHIBBER—SERPENTINE AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

is exposed in a small stream called Thitva Chaung and the hill is known as Subutk-taung. Much quartz is found associated with the schists and small pieces and boulders are scattered about. The incoming of quartz, here, as elsewhere, indicates the approach of the aureole of contact metamorphism. The schists on the east are covered by Plateau gravel.

Both these deposits of graphite were formed as a result of intrusion of the serpentines.

(d) *Coal*.—The only outcrop of coal in this area is that near Kyibin, it suffices to mention that the occurrence is absolutely worthless and the description given by Dr. Murray Stuart is quite enough.

In passing mention may be made of what was believed by the natives to be coal. On examination it was found that it consisted of highly indurated and friable black serpentine at the contact.

In conclusion it may be said that mineral prospects are not good from the Negrais rocks themselves, but sometimes minerals have developed in the igneous rocks, wherever the former have been invaded by intrusions (*e.g.* serpentines.) From this it appears that it would be, advantageous to prospect the igneous rocks of the Negrais region.

(e) *Road Metal and Building Stones*.—There is an unlimited supply of road metal in all the formation except the Sitsayan shales. The sandstones of Eocene age and the Negrais rocks furnish excellent road metal, which is not difficult to quarry on account of bedding and jointing, but the lack of good communications is a serious problem. Nummulitic sandstone is being worked at several places for use as road metal in Henzada and Bassein Districts. Plateau gravel has been used as ballast on the railway on the Henzada-Myogwin line. There is very little demand for building stones except for bridges, pagodas, etc. in the district as the houses are mainly made of timber. In the latter they sometimes use bricks also.

(f) *Serpentine and Soapstone*.—The serpentine cannot be used for big ornamental purposes because of the brittleness of the rock and difficulty of procuring large blocks free from joints. However, it may be employed for small ornamental purposes as it takes good polish. Light green soapstone (*Kingu-san*) occurs associated with serpentine in places in the form of veins and was used by Burmans for writing purposes. Sometimes veins of fibrous asbestos are also seen in serpentine, *e.g.* Gyobintaung, about one and a half miles north-west of Kyeikkwin.

X. Summary and Conclusions.

The serpentines of Henzada and Bassein districts have been described in this paper and in all twenty-three intrusions occur in the Negrais and Nummulitic sandstone series over a distance of 26 miles. The serpentines yield very little soil and hence support a specialised type of vegetation comprising *In* (*Dipterocarpus tuberculatus*) and *Myinwa* (*Dendroclamus strictus*).

Petrologically the intrusive rocks include wholly or partially altered peridotites, saxonites, lherzolites and dunites. Interesting types like hornblende granulite and hornblende-eclogites have also been described from the area. Sometimes diorite (micro-) occurs at the periphery of the serpentine masses. Quartz occurs in considerable quantities in the neighbourhood of intrusions and is believed to be of magmatic origin. In places the contact effects are well-marked. It has been observed that wherever the country-rock consisted of shales, it has been transformed into schists but otherwise only hardening, baking, induration and crushing are seen when the previous rock was a sandstone.

A belt of serpentine extends from the Andaman Islands to the frontier of Burma in the north and has been depicted on a sketch map. The writer has arrived at the conclusion that serpentine intrusions are of late Cretaceous to early Eocene age, because the rocks are intrusive in Negrais as well as Nummulitic sandstones (provisionally referred to Laki stage). The latter also enclose fragments of this mineral showing that the denudation of serpentine was going on while some masses were still to be intruded in the newly deposited rocks.

Chromite occurs associated with serpentine as segregated patches and on weathered surface big nodules of this mineral are to be seen. It appears in places, that the mineral is present in some quantity but lack of proper communications is a hindrance in the way of its exploitation.

A lode of pyrites about 6 feet thick and in places about 40 feet wide has been found associated with a vein of serpentine. Impure graphite also occurs generally as a product of contact metamorphism. The coal deposits of the area are worthless.

Light green soapstone (*Kingu San*) is associated with serpentine in places and was used by Burmans for writing purposes. The serpentine cannot be used for big ornamental purposes because of its fatal defect of jointing, however, it may be employed for small ornamental purposes as it takes a good polish.

XI. Bibliography.

- (1) Stoliczka, F., "Sections across North-west Himalaya, from Sutlej to Indus," *Mem. G. S. I.*, Vol. V, Pt. 1, 1865.
- (2) Theobald, W., "The Axial Group in Western Prose", *Rec. G. S. I.*, Vol. IV, 1871.
- (3) Theobald, W., "The Geology of Pegu", *Mem. G. S. I.*, Vol. X, Pt. 2, 1873.

CHHIBBER—SERPENTINE AND ASSOCIATED MINERALS OF HENZADA DISTRICT.

- (3a) Bonney, T. G., "Petrological notes on the vicinity of the upper part of lock Marce." *Q. J. G. S.*, 1880, pp, 105-106.
- (4) Oldham R. D., "Report on the Geology of parts of Manipur and Naga Hills," *Mem. G. S. I.*, Vol. XIX, 1883.
- (5) Mallet, F. R., "On some of the Mineral Resources of the Andaman Islands in the neighbourhood of Port Blair," *Rec. G. S. I.*, XVII, 1884.
- (6) La Touche, T. H. D., "Geology of the Upper Dehing Basin in the Singpho Hills," *Rec. G. S. I.* Vol. XIX, 1886.
- (7) McMahon, C. A., "Microscopic characters of eruptive rocks from Central Himalayas" *Rec. G. S. I.*, Vol. XIX, Pt. 2, 1886.
- (8) Oldham, R. D., *Manual of the Geology of India*, 1893.
- (9) Max Bauer, "On the Jadeite and other rocks from Tawmaw in Upper Burma," *Rec. G. S. I.*, Vol. XXVIII, Pt. 3, 1895.
- (10) Smith, F. H., "On the Geology of the Tochi Valley," *Rec. G. S. I.*, Vol. XXVIII, Pt. 3, 1895.
- (11) Bonney, Rev. T. G., and Raisin, Miss C. A. "On rocks and minerals collected by Mr. W. H. Conway in the Karakoram Himalayas," *Proc. Roy. Soc.*, LV, 1894.
- (12) Hayden, H. H., "Report on the Steatite Mines, Minbu District, Burma," *Rec. C. S. I.*, Vol. XXIX, 1896.
- (13) Hayden, H. H., "On some Igneous Rocks from the Tochi Valley," *Rec. G. S. I.*, Vol. XXIX, Pt. 3, 1896.
- (14) Middlemiss, C. A., "Notes on the ultrabasic rocks and derived minerals of the Chalk (Magnesite) Hills and other localities, near Salem, Madras," *Rec. G. S. I.*, Vol. XXIX, Pt. 2, 1896.
- (15) Holland, T. H., "Geology of the neighbourhood of Salem, Madras Presidency," *Mem. G. S. I.*, Vol. XXX, Pt. 2.
- (16) McMahon, C. A., "Petrological Notes on some Peridotites, Serpentine, Gabbros and associated Rocks from Ladakh, N. W. Himalaya," *Mem. G. S. I.*, Vol. XXXI, Pt. 3.
- (17) Holland, T. H., "On a Peculiar form of altered Peridotite in the Mysore State," *Mem. G. S. I.*, Vol. XXXIV, Pt. 1, 1901.
- (18) Holland, T. H., "General Report on the work carried on by the Geological Survey of India," 1902-03, Calcutta.
- (19) Holland, T. H., "General Report of the Geological Survey of India for 1908," *Rec. G. S. I.*, Vol. XXXVII, Pt. 1 1909.
- (20) Bleek, A. G. W., "Jadeite in the Kachin Hills, Upper Burma," *Rec. G. S. I.*, Vol. XXXVI, Pt. 4, 1907-08.
- (21) Tipper, G. H., "The Geology of the Andaman Islands, with special reference to the Nicobars," *Mem. G. S. I.*, Vol. XXXV, Pt. 4, 1911.
- (22) Stuart, M., "The Geology of the Henzada District, Burma," *Rec. G. S. I.*, Vol. XLI, 1912.
- (23) Pascoe, E. H., "A traverse across the Naga Hills of Assam from Dimapur to the neighbourhood of Sarametti Peak," *Rec. G. S. I.*, Vol. XLII, 1912.

- (24) Bion, H. S., "The Gold-Bearing Alluvium of the Chindwin River and its tributaries," *Rec. G. S. I.*, Vol. XLIII, 1913.
- (25) Hayden, H. H., "General Report of the Geological Survey of India for the year 1916," *Rec. G. S. I.*, Vol. XLVIII, Pt. 12.
- (26) Cotter, G. de P., "The Geotectonics of the Tertiary Irrawaddy Basin," *Journ. A. S. B., N. S.*, Vol. XIV, 1918.
- (26a) Stuart, M., "Geological traverses from Assam to Myitkyina through Hukong Valley; Myitkyina to Northern Putao; and Myitkyina to Chinese Frontier," *Rec. G. S. I.*, Vol. LIV, Pt. 4, pp. 402-03.
- (27) Coggin Brown, J., "A Geographical classification of Mineral Deposits of Burma," *Rec. G. S. I.*, Vol. LVI, Pt. 1, 1924.
- (28) Fermor, L. L., "On Basaltic Lavas of Bhusaval," *Rec. G. S. I.* Vol. LVIII, 1926.

XII. Explanation of Plates and Photomicrographs.

Plate IV. Geological sketch map.

Plate V. Sketch-map, showing the belt of serpentine and the central volcanic line of Burma.

Plate VI.

Fig 1. Section showing the outcrop of the pyritic vein in Dok-ha Chaung.

Fig 2. Serpentine intrusions, photographed from Kyauktalôn village.

Plate VII.

Fig 1. Nummulitic sandstone showing a distorted foraminifera.

Fig 2. Nummulitic sandstone with enclosed fragments of serpentine.

Fig 3. Nummulitic sandstone showing a fragment of volcanic rock in the centre.

Fig 4. Serpentine with a band of chrysotile showing banded structure (in ordinary transmitted light).

Plate VIII.

Fig 1. The same as above under crossed nicols.

Fig 2. Pale brown serpentine showing dendritic markings.

Fig 3. Serpentine after dunite showing mesh structure.

Fig 4. Serpentinised peridotite showing granitoid aggregate of serpentine (often olivine), diallage and bastite.

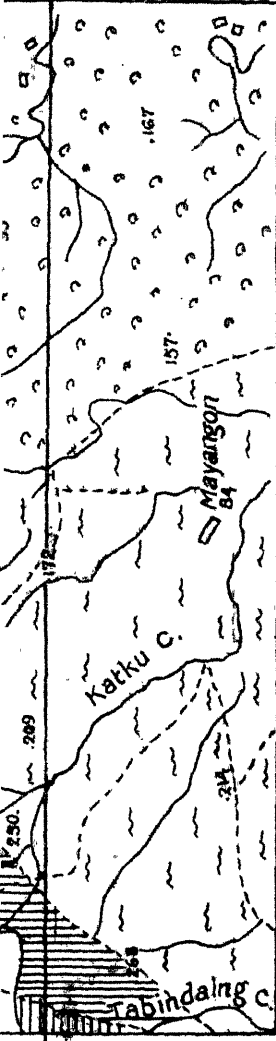
Plate IX.

Fig 1. Serpentinised lherzolite, showing serpentinised olivine augite and enstatite.

Fig 2. Garnet-rock.

Fig 3. Hornblende-ganulite.

Fig 4. Microdiorite showing granitoid aggregate of hornblende and altered felspar.



Alluvium

Plateau Gravel

Sitsayan Shales

Aureole of contact Metamorphism: iron stained chlorite schists with much quartz.

Serpentine Intrusions

Nummulitic Sandstone Series

Negrais region

G. Graphite

Cr. Chromite

PLATE VI.

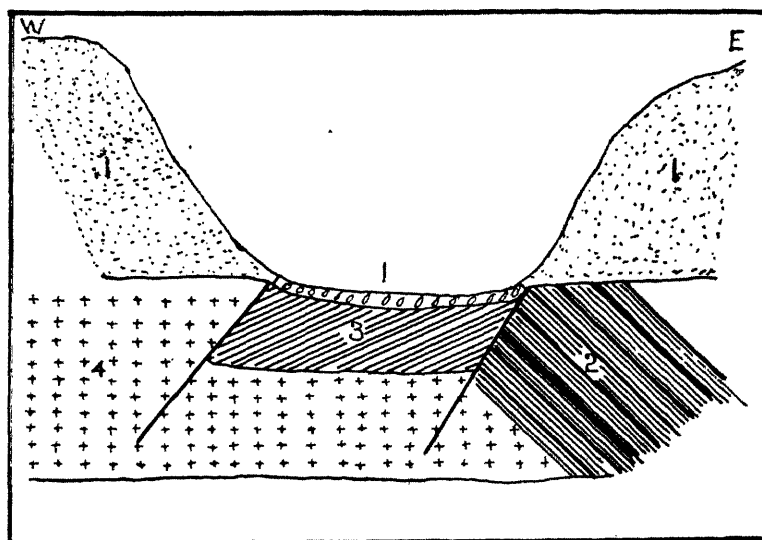


Fig. 1.

- | | |
|--------------------|---------------------|
| 1. GOSSAN. | 3. MINERAL LODGE. |
| 2. NEGRAIS SHALES. | 4. SERPENTINE VEIN. |

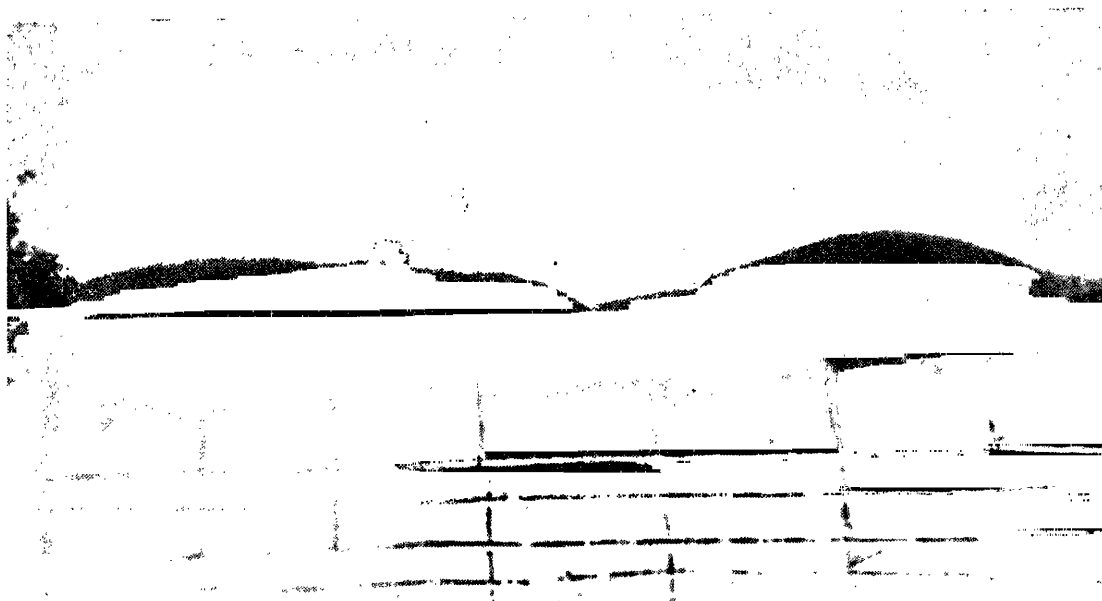


Fig. 2.

PLATE VII.

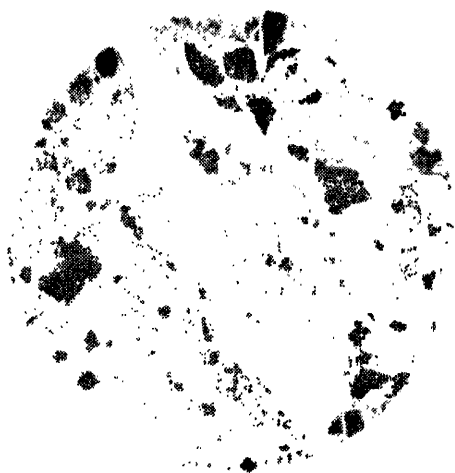


Fig. 1.

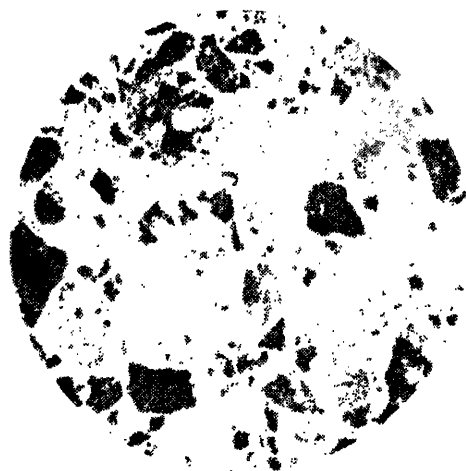


Fig. 2.

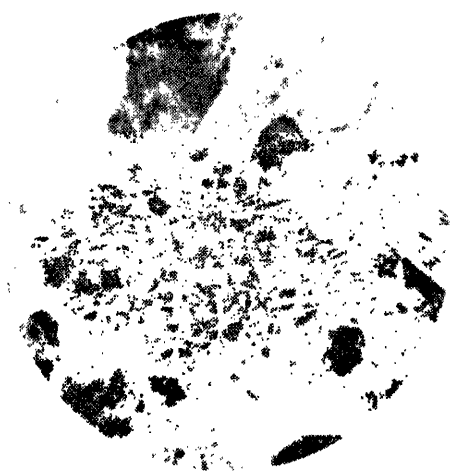


Fig. 3.



Fig. 4.

PLATE VIII.

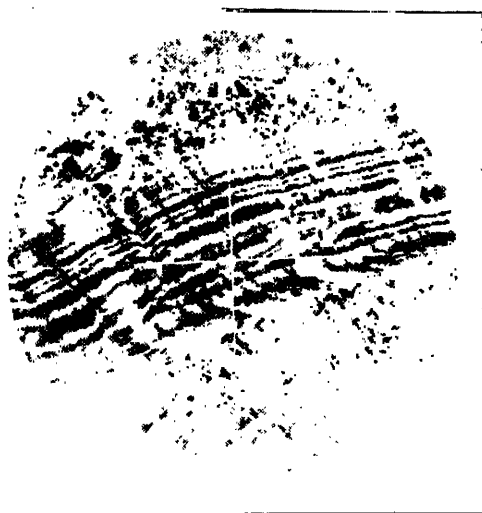


Fig. 1.

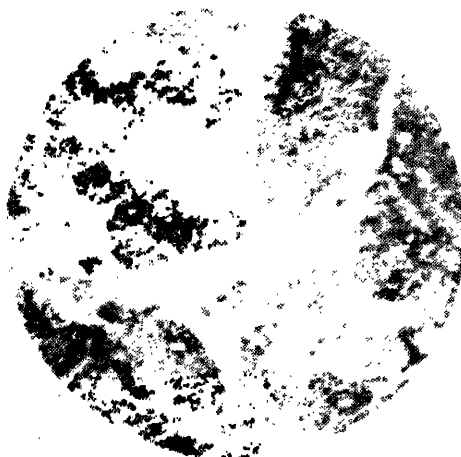


Fig. 2.

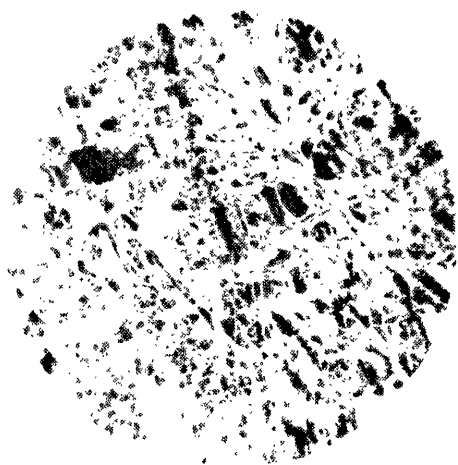


Fig. 3.

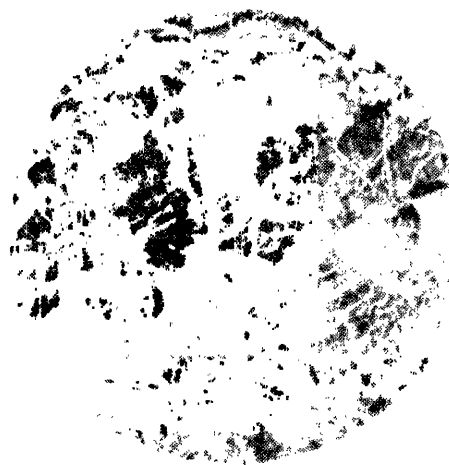


Fig. 4.

PLATE IX.



Fig. 1.

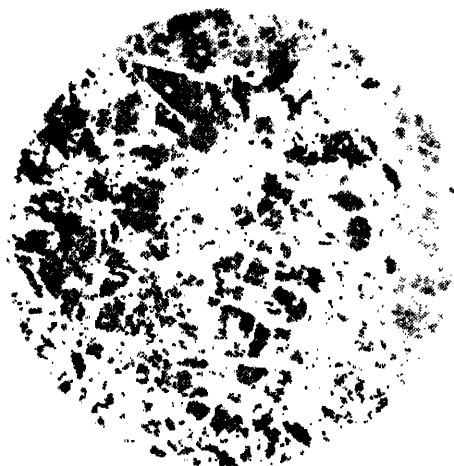


Fig. 2.

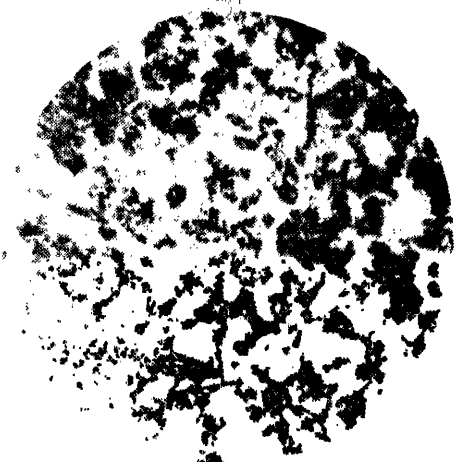


Fig. 3.



Fig. 4.

LIST OF CESTODES COLLECTED IN RANGOON DURING THE YEARS 1923-26.

BY

F. J. MEGGITT,
(University of Rangoon.)

SYSTEMATIC.

ORDER CYCLOPHYLLIDEA Braun 1900.

Family Anoplocephalidae Fuhrmann 1907.

Sub-family Anoplocephalinae Blanchard 1891.

Anoplocephala Blanchard 1848.

manubriata Railliet, Henry and
Bauche 1914.

Elephas maximus (Toungoo.)

Moniezia Blanchard 1891.

expansa (Rudolphi, 1810).

Capra hircus.

expansa (Rudolphi 1810).

Camelus.

Sub-family Avitellinae Gough 1911.

Stilesia Railliet 1893.

globipunctata (Rivolta 1874).

Capra hircus.

Sub-family Linstowinae Fuhrmann 1907.

Oochoristica Lühe 1899.

agamae Baylis 1919.

Hemidactylus gleadowii.

amphisbeteta Meggitt 1923.

Herpestes albopunctatus.

crassiceps Baylis 1920.

Calotes versicolor.

† *fibrata* Meggitt 1926.

Boiga cyaneus.

† *figurata* Meggitt 1926.

Dipsadomorphus multimaculatus.

Crocidura murina.

Thysanotaenia.

† *incognita* Meggitt 1926.

Family Davineisae Fuhrmann 1907.

Sub-family Davaineninae Braun 1900.

Cotugnia Diamare 1893.

brotogerys Meggitt 1915.

Platycercus eximius.

cuneata nervosa Meggitt 1924.

Columba livia dom.

*** *cuneata tenuis* Meggitt 1924.

Columba livia dom.

In press.

Larval stages,

† Host from Victoria Memorial Park, Rangoon;

- digonopara* (Pasquale 1890). *Gallus ferrugineus* G. *gallus* dom.
seni Meggitt 1926. *Psittacus eximius*.
- Davainea* Blanchard 1891. *Gallus gallus* dom.
proglottina (Davaine 1860).
- Raillietina* Fuhrmann 1920.
aruensis (Fuhrmann 1911). *Lorius lory*.
birmanica Meggitt 1926. *Gallus gallus* dom.
corvina (Fuhrmann 1905). *Corvus splendens insolens*.
facile Meggitt 1926. *Tragopan satyra*.
† *famosa* Meggitt 1926. *Electus pectoralis*.
† *flabralis* Meggitt 1926. *Dichoceros bicornis*.
† *flaccida* Meggitt 1927. *Pterocles orientalis*.
fuhrmanni (Southwell 1922). *Crocopus phoenicopterus*.
leptosoma (Diesing 1850). *Platycercus eximius*.
microscolecina (Fuhrmann 1909). *Cacatua moluccensis*.
parviuncinata Meggitt and Po Saw 1924. *Anas boschas* dom.
- pseudoechinobothrida* Meggitt 1926. *Gallus gallus* dom.
reynoldsae Meggitt 1926. *Corvus splendens insolens*.
tetragona (Molin 1858). *Gallus gallus* dom.
torquata Meggitt (1924). *Columbia livia* dom.
sp. Meggitt 1926. *Gallus ferrugineus*.

Family † Biuterininae n. fam.

- † *Deltokeras* n. g.
† *ornitheios* n. sp. *Urocissa occipitalis*.

Family Hymenolepididae Railliet and Henry 1907.

Sub-family Dilepininae Fuhrmann 1907.

- Amoebotaenia* Cohn 1899.
sphenoides (Railliet 1892). *Gallus ferrugineus*.
* *sphenoides* (Railliet 1892). *Pheretima peguana*.
- Choanotaenia* Railliet 1896.
barbara Meggitt 1926. *Passer montana*.
galbulae (Gmelin 1790). *Corvus splendens insolens*.
innominata Meggitt 1926. *Finch*.
magnicirrosa Meggitt 1926. *Acridotheres tristis*.

Sub-family Dipylidiinae Stiles 1896.

- Dipylidium* Leuckart 1863.
caninum (L. 1758). *Canis familiaris*.

MEGGITT—CESTODES COLLECTED IN RANGOON DURING THE YEAR 1923-26

Sub-family Fimbriariinae Meggitt 1924.

Fimbriaria Frolich 1802.

fasciolaris (Pallas 1781).

Anas boschas dom.

Sub-family Hymenolepidinae Ransom
1909.

Hymenolepis Weinland 1858.

clerci Fuhrmann 1923.

rugosus birmanicus Meggitt 1924.

Passer montana.

Columba livia dom.

Weinlandia Mayhew 1925.

farciminosa (Goeze 1782).

Acridotheres tristis.

Corvus splendens.

†*ficlicia* Meggitt 1926.

Pelican.

†*furcata* (Stieda 1862).

Crocidura murina.

rustica (Meggitt 1926).

Gallus gallus dom.

minutissima Meggitt 1926.

Crocidura murina.

†*solitaria* Meggitt 1926.

Crocidura murina.

Family Taeniidae Ludwig 1886.

Multiceps Goeze 1782.

**multiceps* (Leske 1780)

Sus cristatus.

Taenia Linnaeus 1758.

hydatigena (Pallas 1766).

Canis familiaris.

**hydatigena* (Pallas 1766).

Capra hircus.

taeniaeformis (Batsch 1786).

Felis domestica.

*†*sp.* Meggitt 1926.

Semnopithecus entellus.

ORDER PSEUDOPHYLLIDEA Carus 1763.

Family Diphyllbothriidae Lühe 1910.

Sub-family Diphyllbothriinae, Lühe 1910.

Diphyllbothrium Cobbald 1858.

ranarum (Gastaldi 1854).

Canis familiaris.

**ranarum* (Gastaldi 1854).

Rana tigrina.

replans (Diesing 1850).

Canis familiaris.

**reptans* (Diesing 1850).

Boiga cyaneus.

Nerodia piscator.

Ptyas mucosus.

Rhabdophis ceylonensis.

R. stolatus.

Tropidonotus sp.

Several unknown snakes,

Sparganum Diesing 1853.

sp. Meggitt 1923.

sp. ii.

Herpestes albo punctatus.*Dichoceros bicornis*.**ORDER TETRAPHYLLIDEA** Braun 1900.**Family Ichthyotaeniidae** Ariola 1899.*Acanthotaenia* Linstow 1903.

* sp. Meggitt 1926.

Crepidobothrium Monticelli 1899.† *fixa* Meggitt 1926.† *fixa* Meggitt 1926.*mönnigi* Fuhrmann 1924.

sp.

Bungarus fasciatus.*Rhabdophis stolatus*.*Rhabdophis stolatus*.

Unknown snake.

Oligodon purpureus.**SYSTEMATIC POSITION UNKNOWN.***Dithyridium* Rudolphi 1819.

sp. i.

sp. ii.

sp. iii.

sp. iv.

sp. v.

Rhabdophis stolatus.*Mabuia carinata*.*Ophiles jara*.*Bungarus multicinctus*.*Oligodon purpureus*.

Cestode.

*sp.

Corvus splendens insolens.**LIST OF ANIMALS DISSECTED.
MAMMALIA.****Primates.**† *Hyalobates hoolock* Harlan 1834.† *H. lar* (L. 1771).*Papio hamydryas* (L. 1766)† *Semnopithecus entellus* (Dufresne
1797).

Trematoda (intestine).

Nematoda (intestine, coecum : 2
species).* *Taenia* sp.Nematoda (duodenum and intes-
tine).**Carnivora.***Canis familiaris*.*Diphyllbothrum ranarum* (Gastaldi
1854).*D. reptans* (Diesing 1850).*Dipylidium caninum* (L. 1758).*Taenia hydatigena* (Pallas 1766).Nematoda (duodenum, intestine,
stomach : 3 species).

MEGGITT—CESTODES COLLECTED IN RANGOON DURING THE YEARS 1923-26.

- ‡*Felis bengalensis* Kerr 1792. Nematoda (intestine, stomach, mesenteric ulcer 3 species).
F. domestica. *Taenia taeniaeformis* (Batsch 1786).
Belascaris mystax.
‡*F. leo* L. 1766. Nematoda (intestine).
‡*F. tigris* L. 1766. Nematoda (cyst, stomach wall).
Herpestes albopunctatus Hodgson 1853. *Oochoristica amphibeteta* Meggitt 1923.
‡*Sparganum* sp. Meggitt 1926.
Ursus malayanus Raffles 1882. *Pentorchis arkteios* Meggitt 1916.
Nematoda (intestine).

Ungulata

- Camelus bactrianus* L. 1758. *Moniezia expansa* (Rudolphi 1810).
Capra hircus. *Moniezia* (?) *expansa* (Rudolphi 1810).
Stilesia globipunctata (Rivolta 1874).
Elephas maximus L. 1758. **Taenia hydatigena* (Pallas 1786).
‡*Sus cristatus*. *Anoplocephala manubriata* Railliet Henry and Bauche 1914.
Sus cristatus dom. **Multiceps multiceps* (Leske 1780).
Nematoda (2 species).

Rodentia

- Mus concolor* Blyth 1859.
M. rattus L. 1766.
Nesocia bengalensis (Gray 1833). *Acanthocephala* (intestine).
Nematoda (stomach, intestine: 2 species).
Sciuropterus sagitta (L. 1766.) Nematoda (coelome).
Sciurus pygerythrus Geoffroy 1832.
‡Large Indian squirrel Nematoda (mesentery).

Chiroptera

- Nycticejus kuhli*. Nematoda (intestine).
N. pallidus. Nematoda.
Trematoda (2 species).
N. plicatus (Buchanan-Hamilton 1800).
Pteropus medius Temminck 1827.

Insectivora

- Crocidura coerulea* Kerr 1792.
C. murina L. 1726. *Oochoristica figurata* Meggitt 1926.
Weinlandia furcata (Stieda 1862).
W. minutissima Meggitt 1926.
W. solitaria Meggitt 1926.

Marsupialia.

- ‡ *Macropus ruficollis* Desmarest 1817. *Thysanotaenia incognita* Meggitt 1926.
 ‡ *M. robustus* Gould 1840. Nematoda (liver, stomach : 2 species).

AVES.**Accipitriformes.**

- Hieratus pennatus*.
Strix candida Tickell 1833. Nematoda (mesentry).

Anseriformes.

- Anas boschas* dom. *Fimbriaria fasciolaris* (Pallas 1781).
Raillietina parviuncinata Meggitt and Po Saw 1924.
 ‡ *Aythya ferina* (L.) Trematoda (coecum).
 ‡ *Cygnus cygnus* (L.) Nematoda (coecum).
 ‡ *Nettion crecca* (L.)

Columbiformes.

- Columba livia* dom. *Cotugnia cuneata nervosa* Meggitt 1924.
C. cuneata tenuis Meggitt 1924.
Hymenolepis rugosa birmanica Meggitt 1924.
Raillietina torquata (Meggitt 1924).
 ‡ *Crocopus phoenicopterus* (Latham 1790). *Raillietina fuhrmanni* (Southwell 1922).
 Nematoda (trachea).

Coraciiformes.

- ‡ *Dichoceros bicornis* (I.) *Raillietina flabralis* Meggitt 1926.
Sparganum sp. ii.
 Nematoda (duodenum, diaphragm : 2 species).
 ‡ Hornbill. Nematoda (mesentry, stomach and oesophageal wall : 2 species).
 *Nematoda (intestinal wall).

MEGGITT—CESTODES COLLECTED IN RANGOON DURING THE YEAR 1923-26.

Galliformes.

‡ <i>Chrysolophus pictus</i> (L.)	Nematoda (coecum).
‡ <i>Gallus ferrugineus</i> (Gmelin 1788.)	<i>Amoebotaenia sphenoides</i> (Railliet 1892). <i>Cotugnia digonopora</i> (Pasquale 1890). <i>Raillietina</i> sp. Meggitt 1926. Nematoda (intestine).
<i>Gallus gallus</i> dom.	<i>Amoebotaenia sphenoides</i> (Railliet 1892). <i>Cotugnia digonopora</i> (Pasquale 1890). <i>Davainea proglottina</i> (Davaine 1860). <i>Raillietina birmanica</i> Meggitt 1926. <i>R. pseudoechinobothrida</i> Meggitt 1926. <i>R. tetragona</i> (Molin 1858). <i>Weinlandia rustica</i> (Meggitt 1926).
‡ <i>Gennaesus lineatus</i> (Vigors 1831).	Nematoda (coecum).
‡ <i>G. nycthemerus</i> (L.)	Nematoda (coecum).
‡ <i>Lophura rufa</i> (Raffles).	Nematoda (duodenum, coecum: 2 species). *Nematoda (intestinal wall).
‡ <i>Phasianus torquatus</i> (Gmelin).	Nematoda (coecum).
‡ <i>Pterocles orientalis</i> .	<i>Raillietina flaccida</i> Meggitt, 1926. Nematoda (intestine, rectum).
‡ <i>Tragopan satyra</i> (L. 1766).	<i>Raillietina facile</i> Meggitt, 1926. Nematoda (coecum).
‡ Somett's jungle fowl.	Nematoda (intestine, stomach: 2 species).

Gruiformes.

‡ *Grus grus* (L.)

Passeriformes.

<i>Acridotheres tristis</i> (L. 1766).	<i>Choanotaenia magnicirrosa</i> Meggitt 1926. <i>Weinlandia farciminosa</i> (Goeze 1782). <i>Acanthocephala</i> (intestine) Nematoda (coelome, rectum, connective tissue: 3 species).
--	---

Corvus splendens insolens Hume 1874. *Choanotaenia galbulae* (Zeder 1803).

Raillietina corvina (Fuhrmann 1905)

R. reynoldsae Meggitt 1926.

Weinlandia farciminosa (Goeze 1782)

*Cestode sp.

Acanthocephala (intestine).

Trematoda (duodenum, intestine, rectum, gall-bladder : 4 species).

†*Garrulax leucolophus* (Hardw).

Passer montana (L. 1766).

Choanotaenia barbara Meggitt 1926

Hymenolepis clerci Fuhrmann 1923.

Acanthocephala (intestine).

†*Pycnonotus analis* (Hors. 1820).

Urocissa occipitalis (Blyth).

Deltokeras ornitheios Meggitt 1926.

Nematoda (intestine, bronchii : 2 species)

†*Urolonchus punctulata*

Finch

Choanotaenia innominata Meggitt 1926.

†Zebra finch

†Himalayan blackbird

†Jarva sparrow

Pelicaniformes.

†Pelican

Weinlandia ficticia Meggitt 1926

Nematoda (stomach)

Psittaciformes.

†*Cacatua moluccensis* (Gmelin)

Raillietina microcolecina (Fuhrmann 1909).

†*Electus pectoralis* (P. S. L. Müller).

R. famosa Meggitt 1926.

†*Lorius lory* (L.)

R. aruensis (Fuhrmann 1908).

†*Melanopsittacus undulatus* (Shaw).

†*Platyercus eximius* (Shaw).

Cotugnia brotogerys Meggitt 1915.

C. seni Meggitt 1926.

Raillietina leptosoma (Diesing 1850)

Nematoda (intestine).

Ralliformes.

†*Amaurornis phoenicea* (Penn 1769).

Nematoda (intestine).

*Nematoda (intestinal wall, mesentery).

MEGGITT—CESTODES COLLECTED IN RANGOON DURING THE YEAR 1923-26.

Scansores.

† *Rhamphastos carinatus* Swains.

Systematic position unknown.

† *Porphyrio police phallus*.

† *Psephonotus haematonotus* (Gould)

REPTILIA.

Chelonia.

Batagur baska.

Nematoda (intestine, rectum: 2 species).

Lacertilia.

Acanthosaurus major.

Trematoda (liver).

Calotes mystaceus.

C. versicolor (Daud).

Oochoristica crassiceps Baylis 1920.

Nematoda (intestine, rectum).

Trematoda (liver).

Pentastomida (liver).

Gecko verticillatus.

Trematoda (intestine).

Nematoda (intestine, stomach: 2 species).

Hemidactylus gleadowii.

Acanthocephala (liver, muscle).

Oochoristica agamæ Baylis 1919.

Mabuia carinata.

Dithyridum sp. ii.

Nematoda (connective tissue).

Trematoda (intestine).

M. dissimilis.

Nematoda (intestine).

Trematoda (intestine, gall-bladder: 2 species).

Ophidia.

Boiga cyaneus.

* *Diphyllbothrium reptans* (Diesing 1850).

Oochoristica fibrata Meggitt 1926.

Acanthocephala (mesentry).

B. caeruleus (Schneider).

Nematoda (intestine).

Bungarus fasciatus (Schneider).

B. multicinctus.

Dipsadomorphus multimaculatus.

Nerodia piscator.

Oligode purpureus.

Ophites jara

Ptyas mucosus.

Rhabdophis Ceylonensis.

R. stolatus.

Simotes torquatus.

Tropidonotus sp.

Typhlos diardi.

**Acanthotaenia* sp. Meggitt 1926.

Nematoda (stomach, intestine,
lung : 3 species).

Pentastomida (fat).

Dithyridium sp. iv.

Nematoda (connective tissue).

Pentastomida (connective tissue).

Oochoristica fibrata Meggitt 1926.

Crepidobothrium sp.

**Diphyllbothrium reptans* (Diesing
1850).

Dithyridium sp. v.

Nematoda (rectum).

Dithyridium sp. iii.

Nematoda (intestine, stomach,
tissues : 3 species).

Trematoda (intestine).

Pentastomida (liver, connective
tissue).

Diphyllbothrium reptans (Diesing
1850).

Nematoda (lung, duodenum,
rectum : 3 species).

Acanthocephala (mesentery).

Pentastomida (connective tissue).

**Diphyllbothrium reptans* (Diesing
1850).

Nematoda (intestine).

Crepidobothrium fixa Meggitt
1926.

C. fixa Meggitt 1926.

**Diphyllbothrium reptans* (Diesing
1850).

Dithyridium sp. i.

Nematoda (intestine, rectum,
gall-bladder : 3 species).

Acanthocephala (intestine).

Nematoda (intestine).

**Diphyllbothrium reptans* (Diesing
1850).

Nematoda (connective tissue,
coelome, stomach : 3 species).

Acanthocephala (intestine).

Trematoda (intestine).

Pentastomida (lung, connective
tissue).

MEGGITT—CESTODES COLLECTED IN RANGOON DURING THE YEAR 1923-26.

Unknown snakes.

Crepidobothrium mönnigi (Fuhrmann 1924).

AMPHIBIA.

Anura.

Bufo melanostictus.

Mesocoelium sociale (Lühe 1901), intestine.

Nematoda (lung : 2 species).

Pentastomida (lung, muscle : 2 species).

Rana tigrina.

**Diphyllobothrium ranarum* (Gastaldi 1854).

Mesocoelium sociale (Lühe 1901) intestine.

Acanthocephala (mesentery).

Nematoda (rectum, liver : 2 species).

ANNELIDA.

Pheritima peguana.

**Amoebotaenia sphenoides* (Railliet 1892).

ARTHROPODA.

Periplaneta americana.

**Moniliformis moniliformis* (Bremser 1819), body cavity.

Fly.

*Nematoda (head).

**Notes on the Larvae *Centrorhynchus aluconis* (Muller 1780)
[Acanthocephala] found in Rangoon toads.**

By

K. SUBRAMANIAN, B.A.

(*University of Rangoon*)

During July and August a large number of toads were dissected in the Laboratory for the purpose of investigating their Acanthocephala fauna. No adult Acanthocephala were found in the intestine. The toads contained large numbers of a larval Acanthocephalan belonging to the genus *Centrorhynchus*. Almost all the toads dissected were heavily infected with these larvæ, few being free from infection. The larvæ were found encysted in the various internal organs, stomach, intestine, liver etc, the bladder being a favourite haunt for them for, while in some specimens all the other organs were uninfected, the walls of the bladder invariably contained a number of these encysted forms.

It is my pleasant duty here to thank Prof. F. J. Meggitt who helped me at every stage of work.

***Centrorhynchus aluconis* (Müller 1780)**

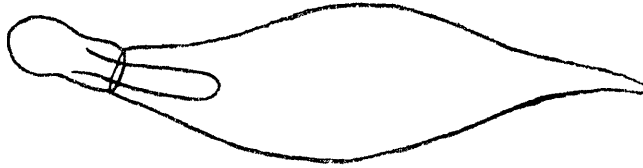
The adult form of *Centrorhynchus aluconis* has been recorded from the following hosts: *Circus aeruginosus*, *Haliaetus albicilla* and *Mergus albellus*. The larva occurs in *Ilyla arborea*, *Rana esculenta* and *Tropidonotus natrix* (Lühe 1911, p. 43) In Rangoon it is very common in *Bufo melanostictus*, less common in *Rana tigrina* and rare in *Rhabdophis Ceylonensis*.

The larva in *Bufo melanostictus* is enclosed in an oval tough cyst, the size of which varies with the age of the larva. Measurements of four of these cysts are given below.

Length.	Diameter.
2'5 *	2
3'0	2
2'5	2
2'0	2

The cysts from *Rhabdophis Ceylonensis* were longer with the larva inside fully extended. They were also filled with a white powdery substance. Another peculiarity was the preponderance of female larvæ, males being extremely rare. The following description applies to the female.

* All measurements in millimeters.



The larva enclosed in the cyst is white, spindle-shaped when fully extended, measures 3 long and, thick, posteriorly the body of the female terminates in a bluntly pointed conical process, while in the male it is rounded off.

The proboscis varies in total length from 0.85—0.91. At the point of insertion of the proboscis receptacle approximately at the middle of the proboscis, the proboscis is constricted, diameter of proboscis at constriction 0.385, anterior to constriction 0.4375, posterior 0.4725. There are 30 longitudinal rows of hooks with 15 hooks in each row. Anteriorly the hooks are provided with well developed rectangular roots, posteriorly the root is recurved, root and hook being continuous, curved and S-shaped. The longest hooks have roots measuring 57.5'—60.5 μ , spines 35.75 μ long and are 16.5' broad at base. The proboscis receptacle is two layered, cylindrical and 0.7 long, Retractors of proboscis well developed.

In some of the specimens examined situated 0.175 below posterior end of proboscis receptacle are two ovaries, which break down in the adult, into the so-called "floating" ovaries or "placentulae." They are 0.14 long and 0.07 broad, placed side by side the anterior one a little above the posterior. The female reproductive system can be clearly seen.

The lemnisci are two club shaped bodies 0.7 long extending a little beyond the posterior end of the proboscis receptacle.

The method of infection of the load is not clearly known. The cysts on being swallowed by the permanent hosts directly develops into the adult.

Literature Cited.

Lühe, M. (1911) Die Süßwasserfauna Deutschlands Heft 16: Acanthocephalen.

THE NWESHIN

By

S. B. GHOSE

(*Department of Agriculture*)

That animals may originate from plants is a popular belief in Burma. The animal is regarded, not as a metamorphosed plant, but as a portion budded off, the plant itself remaining as a separate entity. The classical example is that of the charming Princess Padonmadevi who issued forth from a lotus flower (padonma). Again, the "mwesein" (literally "green snake") is believed to arise from certain creepers and correspondingly to differ in its reproduction from the normal type of snake. As evidence many a person is prepared to swear to having seen a creeper shoot, the outer part of which had already changed into the head and neck of the "mwesien" while the remaining portion continued vegetable. Lastly there is the nweshin" (literally "live creeper") which is believed to become alive and motile on reaching water. A slightly different version holds that the metamorphosis is not actually effected, the "nweshin" remaining a creeper but becoming so active as easily to be mistaken for a snake.

(Specimens of "nweshin" submitted for examination were found to belong to the phylum Nematelminthes, Family Gordiidae. The habit of this worm of coiling—often in masses—round stems of water-plants and occasionally becoming detached, and of the larval form, hatching from egg-strings wound round water-plants and departing in search of its host, afford a ready explanation of the above belief.—Editor).

LIFE HISTORY OF *Thuja Occidentalis*

BY

M. R. HANDA, M. Sc.

(Assistant Lecturer in Biology, University of Rangoon.)

I. Introduction.

A. General Description.

• *Thujas* are evergreen trees and shrubs. They are natives of China, Japan, Formosa and North America. They form trees of shapely pyramidal outline.

Thuja occidentalis is a tree, 50-60 feet high and usually 4-9 feet but occasionally 18 feet in girth, the trunk often forked from near the ground and prominently buttressed. Bark reddish-brown or orange-brown, fissured on old trees, the thin outer bark scaling off in small rolls. Branches horizontal, turning upwards at the ends. Branchlets slender, tough, flexible, divided near the apex into fine spray, smaller branchlets deciduous with the leaves after several seasons. Buds hidden by leaves. Leaves small, scale-like, overlapping, in four ranks of two opposite sets, the upper and lower ranks flattened, the side ranks rounded; dark green above, pale green below; those on leading shoots about $\frac{1}{8}$ inch long, sharp pointed, rounded on the back; those on lateral shoots smaller, about $\frac{1}{10}$ inch long, rounded or bluntly pointed.

Male and female cones on different branchlets of the same tree. A large number of forms have been given varietal names. Some are doubtfully distinct and become difficult to distinguish from the type with age.

Thuja orientalis is easily known by the vertical arrangement of its branchlets and by the strongly hooked cone scales. *Cupressus* is distinguished by the fact that the cones are rounded and the scales are usually four-sided with a distinct boss in the centre of each.

A few economic aspects of *Thuja* may be considered. Wood is light in weight, soft and fragrant, easy to work, very durable. It is widely used for building purposes, telephone and telegraph posts, furniture etc. The slender branches are sometimes woven into baskets and ropes. In *Juniperus*, oil is expressed by distillation from wood and leaves. That from the wood is often used for perfumery, sometimes in medicine. They have powerful diuretic properties. Wood of *Cupressus* is used for a wide range of purposes as in *Thuja*. Several of the cypresses are important timber trees. The wood of *Callitris* is valuable for building purposes, furniture, pedestals etc. Other economic products are tannin

from the bark, fragrant oils by distillation of shoots, leaves and cones, and resin from wounds on the bark. The species of *Callitris* are peculiarly adapted to dry, arid regions and apart from their value in arid places, the resistance of the wood to the attacks of white ants makes it specially valuable (Dallimore and Jackson, 1923).

B. *Material and Methods.*

The present work was conducted in the Botanical Laboratory of the Government College, Lahore. The tree from which the writer obtained his material for investigation is situated in the Botanical Garden of the same college. He began his collections in the beginning of the month of November, 1924, and continued till the end of March, 1925. Then again, the collections were begun in the middle of October, 1925 and ended near the end of February, 1926. Stray collections were made during the month of March, 1926, but owing to the shortness of time at the writer's disposal and to the long time taken for the material to get infiltrated, the writer simply preserved them in 70 per cent. alcohol plus glycerine mixture.

The writer is sorry to observe that he has been able to elucidate very few facts during the time at his disposal. He has been able to follow the sequence of development of the microsporangium. In the female cone the writer has only been able to see some of the earliest stages in the development of the ovule, such as the nucellus, megaspore-mother cells and the megaspores. This is partly referable to the fact that all his collections of the female cones last year got completely burnt down; and partly to the difficulty he experienced in the fixing of dates for particular stages.

It was on the initiative of Dr. S. L. Ghose, then Lecturer in Botany at Government College, Lahore, that the present work was undertaken. The need was also felt since very little work had been done on *Thuja*, the only paper on record being by Land (1902) on the "Morphological study of *Thuja occidentalis*". The writer wishes to express his indebtedness for many valuable suggestions to Dr. Ghose. He also begs to convey his sense of gratitude to Mr. Mohanlal Sethi M.Sc. under whose supervision and able guidance, the writer carried on his course of investigation.

The collections were made at least once a week, quite often bi-weekly and on occasions of need they were repeated more often.

The fixatives used were Flemming's weaker solution and Corrosive sublimate. The former gave by far the best results. Later the writer had to interpose Cornoy's fluid which proved useful in that it facilitated the penetration of Flemming's weaker fluid in the material.

The chief stain used was Haidenhain's Iron Alum Haematoxylin.

In the beginning four μ thick sections were cut and in the end six μ and sometimes eight μ which were particularly suitable for large blocks such as those of female cones.

II. Life History.

A. Male cone.

Male and female cones are found on the different branchlets of the same tree. The male cones are initiated about the middle of September. They arise from branchlets near the base of the shoot. They are when mature more or less cylindrical measuring $\frac{1}{8}$ to $\frac{1}{4}$ inch long. The microsporophylls are numerous and follow the leaf arrangement *i.e.* arranged in decussate pairs. Each stamen consists of a blade-like tip from the abaxial side of which arise four sporangia which are more or less slightly elongated, being 681 μ in length and 534 μ in breadth.

In the cones fixed on October 15, 1925, a sporangium shows a distinct sporogenous tissue and two layers of the wall. The cells of the sporogenous tissue are filled with dark staining granules. They are polygonal and are distinguishable from the outer two layers of rectangular cells (Plate X, Fig 1).

On November 15, 1925, the inner-most layer in contact with the sporogenous tissue forms the nutritive jacket—the so-called tapetum (Plate X, Fig 2). The cells of this tapetal investment could be easily distinguished from the cells of the sporogenous tissue. They are lightly stained, larger in size, elongated in the radial direction and possess small nuclei whereas the sporogenous cells are smaller in size deeply stained, more or less polygonal in shape and possess large, nuclei.

Later, on November 23, 1925, two wall-layers can still be made out, the outer-most layer being quite distinct while the inner second, layer seems to have been pressed (Plate X, Fig 3), while the tapetum continues to be distinct.

In early December, the mother cells become quite well organised, lying loose in the sporangial cavity. Two wall layers can still be made out though the tapetum is not so clear (Plate X, Fig 4.)

On December 30, 1925, next stage after mother cell stage shows well formed spores and the tapetum becoming inconspicuous and unimportant (Plate X, Fig 5), showing signs of disintegration. No reduction divisions have been observed. During 1924-25 the reduction divisions were suspected between 11th of December (when the cones showed the mother cell stage) and 17th, of December (when the spores were evident). During 1925-26 the writer made daily collections during the days reduction divisions were expected to take place, unfortunately he was not able to secure them. The cones collected on December 27 showed the mother cells while those collected on December 30, showed the spores. Thus it is clear that there has been a shifting forward of the days when reduction divisions take place and that they are completed within three days. This is hard to explain but it may very tentatively be suggested that this state of affairs may be due to annual climatic variations,

A later stage, January 28, shows the entire disappearance of tapetum with spores in the sporangium (Plate X, Fig 6). All that is left of the wall layers is a single outermost layer of it. The second wall layer and the tapetum are absorbed by the developing spores. Microspores measure 27.5μ in diameter, the first division takes place into the generative and tube nuclei before they are shed. They are further characterised by the absence of vestigial prothallial cells or of nuclei representing such cells (Lawson, 1907).

B. *Female cone*

Female cones when mature are oblong, measuring $\frac{1}{3}$ to $\frac{1}{2}$ inch long, green and erect when young, brown and pendent when mature; sporophylls in 4-5 pairs, the second and the third pairs larger than the others. The number of ovules is rigidly two and the ovules are erect (Plate X, Fig 7). Ovules near the extreme proximal and distal ends of the cone are abortive

On December 10, 1925, the nucellus was quite large, consisting of uniform cells, with no evidence of sporogenous tissue in the form of mother cells. The micropyle was long and fairly broad. The integument was free from the nucellus for a great distance and as the nucellus was young, the pollen chamber was deep and narrow. The integument showed no differentiation into the three characteristic layers but it showed four layers of undifferentiated cells (Plate X, Fig 8).

On February 7, 1926, two megaspore mother cells were seen to be clearly differentiated from the surrounding tissue by their conspicuously large nuclei and their densely granular cytoplasm. One of the two mother cells was in the resting condition, the other showing an early prophase (Plate X, Fig 9). These deep-lying mother cells were surrounded by a single layer of cells distinct from the rest, which may represent a tapetum. In the more recent literature of the subject, it has been referred as the "spongy tissue" (Coulter and Chamberlain, 1921, p. 257). Pollen grains were seen resting on the tip of the nucellus. Short pollen tubes were also seen about to penetrate the nucellar tissue.

The megaspore mother cells deeply placed in the nucellar tissue undergo the two reduction divisions and tetrads are formed. The writer could easily count five megaspores, two still enclosed by a common wall and the other three lying free from one another (Plate X, Fig. 10). In another section, all the eight megaspores are seen. The tetrads formed by the division of a mother cell is not linear but tetrahedral.

A few brief observations may be added as illustrative of the life history of *Thuja occidentalis* as supplying the the stages which the writer failed to find.

(i) No male prothallial cells or nuclei are formed,

HANDA—LIFE HISTORY OF THUJA OCCIDENTALIS.

- (ii) The pollen tube while penetrating the nucellar tissue shows no indication of branching.
- (iii) Two male cells of equal size are organised.
- (iv) The archegonia are six in number and are arranged in a single group—archegonial complex with a common layer of jacket cells.
- (v) No separating wall is formed between the egg nucleus and the ventral canal nucleus.
- (vi) Walls appear in the proembryo at the eight-nucleate stage.
- (vii) The cells of the proembryo are arranged in three distinct tiers—one tier of free nuclei open to the egg. The cells of the middle tier elongate and develop into the suspensors. The cells of the end tier form the embryo proper.

III. Summary

1. Male cones are initiated in the middle of September.
2. Microsporangia on October 15 showed two distinct wall layers and a well organised sporogenous tissue.
3. In the beginning of December, the mother cells become well defined.
4. Reduction divisions took place between 11th and 17th of December in 1924 and between 27th and 30th of December in 1925.
5. Pollen is ripe by the end of January.
6. Pollination takes place in the beginning of February.
7. The wall layers of microsporangium are two to three in the young condition but only one when mature.
8. The pollen is shed in the two-celled condition and no prothallial cells are formed (Lawson, 1907).
9. On December 10, the ovule showed well defined nucellus, integument free from the nucellus for a long distance, micropyle quite open and the pollen chamber deep and narrow.
10. On February 7, the two megaspore mother cells were seen lying deep in the nucellus and are surrounded by the so-called "spongy tissue."
11. The tetrads formed by the division of a mother cell was not linear but tetrahedral.
12. Eight megaspores were clearly seen.

IV. Description of Plates

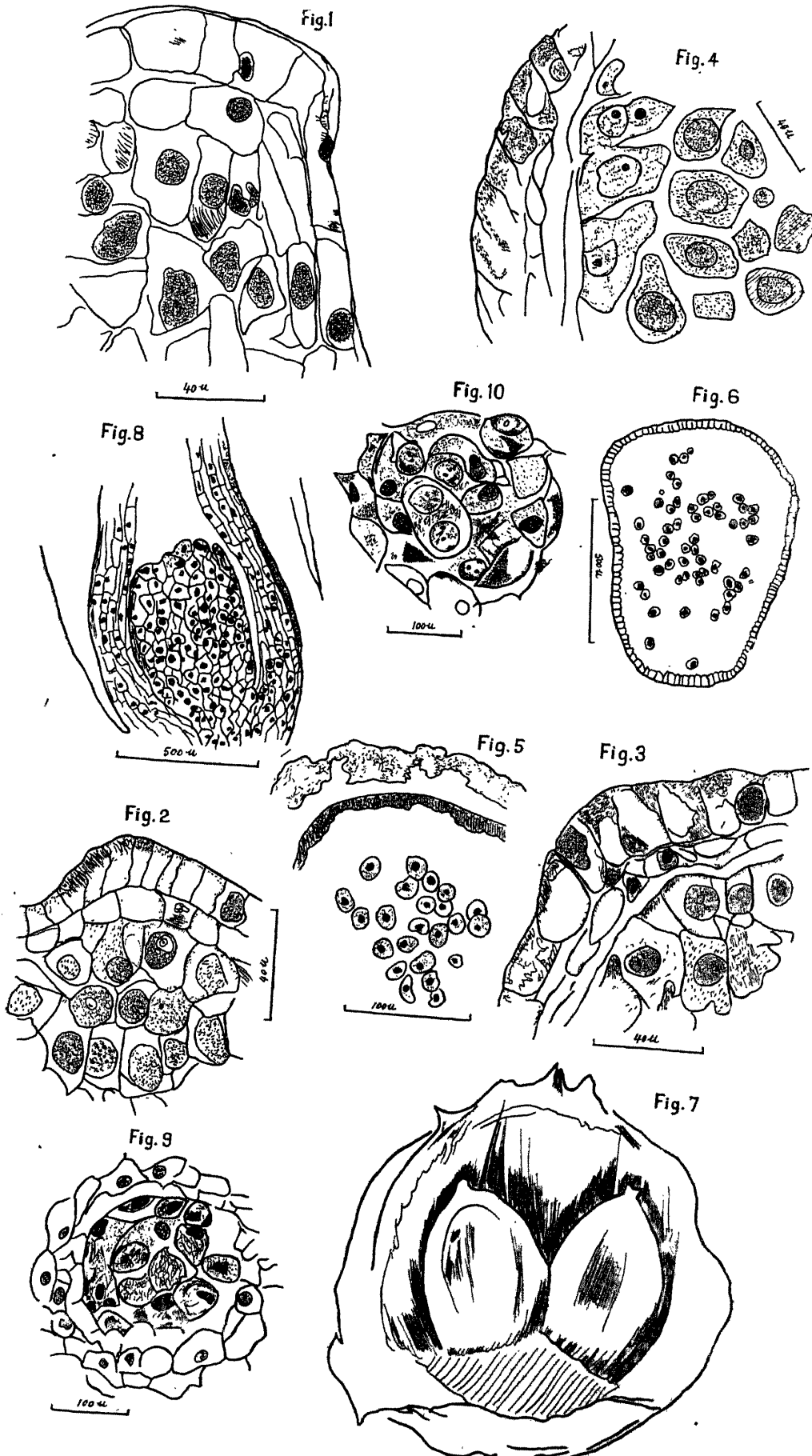
PLATE X.

- Fig. 1. T. S. of male cone. Shows sporogenous tissue of polygonal cells and two layers of rectangular cells.
- Fig. 2. Sporogenous tissue surrounded by a distinct tapetum. The two wall layers distinct.
- Fig. 3. Tapetum distinct but the inner wall layer seems to have been pressed.
- Fig. 4. Mother cells lying loose in the sporangium.

- Fig. 5. Shows spores. Tapetum inconspicuous, wall single layered.
Fig. 6. Tapetum quite absent. Wall single layered. Spores lying free in the sporangium.
Fig. 7. A megasporophyll with two erect ovules.
Fig. 8. Shows nucellus and the open micropyle. Integument free from the nucellus for a long distance.
Fig. 9. Two megaspore mother cells surrounded by the so-called "spongy tissue".
Fig. 10. Five megaspores clearly seen, two enclosed by a common wall and the remaining three lying free from one another.

V. Bibliography

- Coulter, J. M. and Chamberlain, C. J.** (1921): Morphology of Gymnosperms, Chicago.
- Dallimore, W. and Jackson, A. B.** (1923): A Hand Book of Coniferae including Ginkgoaceae, London.
- Land, W. J. G.** (1902): A Morphological study of *Thuja*. *Bot. Gaz.* 34: 249—259.
- Lawson, A. A.** (1907): The gametophytes and embryo of the Cupressineae with special reference to *Libocedrus decurrens*. *Ann. Bot.* 21: 281—301.
- Ottley, A. M.** (1909): The development of the gametophytes and fertilization in *Juniperus communis* and *Juniperus virginiana*. *Bot. Gaz.* 48: 31—64.



THE MYXOPHYCEAE OF RANGOON. II.

By

S. L. GHOSE, M.Sc., Ph.D., F.L.S.,

Lecturer in Botany, University College, Rangoon.

INTRODUCTION.

In an earlier paper, (Ghose 1926) were described 20 of the commonest species of Myxophyceae from Rangoon. In the present paper 10 more species, of which 3 varieties are new, are dealt with, and observations on their usual habitat are noted down. It is intended that as complete a record as possible of all the blue-green algae found in Rangoon may be made so as to enable future workers on the group in Burma and elsewhere to carry on their systematic and ecological investigations without the initial difficulty of the expenditure of a large amount of labour in the identification of their specimens, a task which, at present, can only be done with the help of rather rare and much scattered literature on the subject. For this reason, a yearly contribution towards our knowledge of the Myxophyceae of Rangoon will be made in this journal, and it is hoped that foreign workers on the subject will have ample opportunities of reviewing or criticising each of the instalments as it comes out.

Since the preceeding paper on the subject a very useful and comprehensive book on the Blue-green Algae has been published at Jena, mainly through the efforts of Dr. Lothar Geitler of Vienna, and in the preparation of this paper it has been used frequently and profitably for the identification of species (Pascher 1925).

SYSTEMATIC DESCRIPTION OF THE SPECIES OBSERVED

Order I. **Coccogoneae** (Thüret) Kirchner.

Family **Chroococcaceae**.

Genus **Chroococcus** Naeg.

1. *Chroococcus indicus* Zell., in Hedwigia 1873, p. 168; Zeller 1873, p. 176; De Toni 1907, p. 17; variety *epiphyticus* var. nov.

Plate XI, Fig. 1.

Cells not found in a definite thallus but scattered on the surface of the substratum sometimes forming small irregular groups. Colonies generally 2-celled, occasionally single-celled, rarely 4-celled. Cells globose, $12 \times 15 \mu$ in diameter, bluish-green. Sheath hyaline or conspicuous, smooth, broad. Cell-contents granulose.

Habit. On the bark of *Moringa pterygosperma* intermingled with a species of *Penium* and *Scytonema miabile*, the latter forming a felt-like layer on the tree.

The type species was first described by Zeller in 1873, as occurring in a forest stagnant pond near Prome. The new variety differs from the type in three things, firstly, it does not form a thin gelatinous stratum as the type-form does, secondly, it has epiphytic habit, and thirdly its cells are very much broader, those of the type-species being only $3.5-5.5 \mu$ in diameter. The species should not be confused with *Chroococcus indicus* of Bernard, which has been described from Buitenzorg and is characterised by thin sheaths and peculiar colony-formation (Bernard 1908, p. 47, plate I, figs. 4-5.)

Genus *Gloeocapsa* Kütz.

2. *Gloeocapsa conglomerata* Kütz., Tab. Phycol. I., p. 16, plate 20, fig. 8; De Toni 1907, 56; Lemmermann 1910, p. 63; Pascher 1925, p. 89, fig. 88; Tilden 1910, p. 18, plate 1, fig. 21; Ghose 1923, p. 336.

Plate XI, Fig. 2.

Stratum gelatinous, thin, dark olive-green, expanded. Cells globose, 2-8 or more, aggregated, at first blue-green later brownish, $3-5 \mu$ in diameter. Sheaths thick, colourless, not lamellose. Cell-contents blue-green.

Habit. Generally on damp soil, during the rainy months. The stratum, as it gets drier, takes on a darker colour, hardens a little and then disappears. No spores were seen to be formed, but the walls of the cells become hard and brown and probably in this state the alga perennates. It is also sometimes found on the bark of some trees and shrubs.

Genus *Aphanocapsa* Nag.

3. *Aphanocapsa biformis* A. Br., in Rabenh. Alg. No. 2453; De Toni 1907, p. 68; Lemmermann 1910, p. 60; Pascher 1925, p. 67; Ghose 1923, p. 336.

Plate XI, Fig. 3.

Stratum thin, gelatinous, olive-green, much expanded. Cells spherical, or slightly elongated before dividing, $4-7 \mu$ in diameter, single or associated in pairs. Sheaths gelatinous, confluent. Cell-contents pale blue-green.

Habit. On damp sandy soil, during the rainy months. The stratum behaves in very much the same way as that of *Gloeocapsa conglomerata*, and cells have not been seen to form spores. The alga evidently flourishes in warm climates, as in Europe it is generally found on moist walls of out-houses (Lemmermann 1910, p. 60; De Toni 1907, p. 68). It has also been recorded from Lahore, as occurring on moist ground or banks of drains (Ghose 1923, p. 336).

GHOSE—THE MYXOPHYCEAE OF RANGOON, II.

Order II. **Hormogoneae** (Thüret) Kirchner.Cohort **Psilonemateae** Kirchner.Family **Oscillatoriaceae**.Genus **Phormidium** Kütz.

4. *Phormidium ambiguum* Gomont, Monogr. Oscill., p. 198, plate 5, fig. 10; De Toni 1907, p. 240; Lemmermann 1910, p. 127; Pascher 1925, p. 382, fig. 483; Tilden 1910, p. 103, plate 5, fig. 5.

Stratum more or less expanded, thin, blue-green, dark or yellowish-green. Filaments elongate, flexuous, variously entangled. Sheaths firm, or mucous and diffuent, hyaline. Trichomes 4-6 μ in diameter, very slightly constricted at the joints. Cells 2-2.5 μ in length. Apex straight rounded, neither attenuate nor capitate. Cell-contents granular, blue, green.

Habit. On damp soil where water has stood for some time. It is often met with on the sides of muddy roads, where rain-water collects in hollow depressions. In Europe this alga is found attached to water plants in standing water, which may be warm or saltish (Lemmermann 1919, p. 127.)

Genus **Symploca** Kütz.

5. *Symploca cartilaginea* (Mont.) Gomont, Monogr. Oscill., p. 113, plate 2, figs. 13-14; De Toni 1907, p. 306; Lemmermann 1910, p. 143; Pascher 1925, p. 392, fig. 498.

Plate XI, Fig. 5.

Filaments thickly aggregated, forming a dark blue-green stratum which is covered with sub-erect, spine-like bundles, 2-4 mm. high and consisting of upright threads arranged in a parallel manner. Sheaths thick, firm. Trichomes not constricted at the joints. Cells 2-3 μ in diameter, mostly longer than broad, pale blue-green. Apex conical.

Habit. On damp soil, which is more or less protected from direct sun-light.

Genus **Schizothrix** Kütz.

6. *Schizothrix arenaria* (Berk.) Gomont, Monogr. Oscill., p. 312, plate 8, figs. 11-12; De Toni 1907, p. 342; Lemmermann 1910, p. 150; Pascher 1925, p. 48, fig. 536. *Scytonema arenaria* Berkley, Ann. and Mag. of Nat. Hist. III, p. 327. *Hypeothrix arenaria* (Berk.) De Toni 1907, p. 342; Tilden 1910, p. 143, plate 6, fig. 4. *Schizothrix arenaria* (Berk.) Gom., variety *non-constricta* var. nov.

Plate XI, Fig. 6.

Stratum thin, blue-green, not encrusted with calcium carbonate. Filaments firm, strongly flexuous, closely entangled, below trunk-shaped, towards the apex divided and branched. Sheath hyaline, firm, roughened in outline, tapering at the apex, thick and lamellose in lower parts. Trichomes not constricted at the joints, 2-3 μ thick. Cells quadrate or longer than broad, blue-green. Apex acute-conical. Cell-contents pale blue-green.

Habit. On sandy places where rain-water has stood for a short time or where it has frequently been flowing for some time. It is generally associated with species of *Mougeotia* and *Zygnema*.

The new variety differs from the type-form only in having no clear constrictions at the joints of the trichome. It is interesting to note in this connection that Tilden perhaps found these constrictions 'in dried specimens' only (Tilden 1910, p. 143.)

Genus *Microcoleus* Desmaz.

7. *Microcoleus delicatulus* W. et G. S. West, Trans. of the Roy. Micr. Soc. 1896, p. 164; De Toni 1907, p. 378; Lemmermann 1910, p. 156; Pascher 1925, p. 435; variety *attenuatus* var. nov.

Plate XI, Fig. 7.

Stratum thin, bluish-green, made up of entangled threads. Filaments single, not branched, up to 70 μ broad. Sheaths mucilaginous, colourless, containing many trichomes. Cells 1.5-2 μ in diameter, much longer than broad. Apex spine-like.

Habit. On damp earth, occasionally on the outer side of hanging wooden orchid-boxes, and usually associated with other blue-green algae, especially species of *Scytonema*, on the top of which it forms a stratum of intertwined threads.

The new variety differs from the type-species in having broader threads, longer cells, and spine like apices to the trichomes.

Family Nostocaceae.

Genus *Nostoc* Vaucher.

8. *Nostoc muscorum* Agardh; Bornet et Flahault, Revis. des Nostoc., Ann. Sci. Nat. Bot. VII, 1888, p. 200; De Toni 1907, p. 400; Lemmermann 1910, p. 7, 168; Pascher 1925, p. 299, fig. 349; Tilden 1910, p. 169, plate 7, figs. 12-14; Ghose 1923, p. 340.

Plate XI, Fig 8.

Stratum firm, gelatinous-membranous, at first more or less spherical later irregularly expanded, adhering by under surface, tuberculose, dark

GHOSE—THE MYXOPHYCEAE OF RANGOON, II.

olive-green or yellowish-brown. Filaments flexuous, densely entangled. Sheaths clear only at the periphery of the stratum, yellowish-brown. Cells barrel-shaped or cylindrical $3-4\ \mu$ in diameter, up to twice as long as broad. Heterocysts globose, $6-7\ \mu$ broad. Spores oblong, in a catenate series, $4-8\ \mu$ in diameter, with a smooth yellowish wall.

Habit. On exposed damp soil, during the rains. In the beginning the thallus is strong and rounded but later it slowly expands and fuses with other thalli. In this way large conspicuous mucilaginous sheets are produced the surface of which is at first tuberculose but later becomes more or less folded.

9. *Nostoc microscopicum* Carmichael; Bornet et Flahault, Revis. des Nostoc., Ann. Sci. Nat. Bot. VII, 7, 1888, p. 210; Lemmermann 1910, p. 170; Pascher 1925, p. 302; Tilden 1910, p. 176, plate 8, fig. 5.

Plate XI, Fig. 9.

Colonies spherical or oblong, $1-5\ \mu$ mm. in diameter, soft, olive-green or brownish. Filaments loosely entangled. Sheaths clear in peripheral filaments, yellowish. Trichomes $5-7\ \mu$ in diameter. Cells somewhat spherical, blue-green, Heterocysts $7\ \mu$ in diameter, somewhat spherical. Spores $6-7\ \mu$ in diameter, $9-12\ \mu$ in length, oval, olive, with a smooth wall.

Habit. On the bark of *Moringa pterygosperma*, during later rainy months. On bright sunny days the stratum dries up and forms a thin dark brown crust, but as soon as it rains again the bark is seen to be covered with minute globular colonies of this alga, which do not grow very much larger but begin to form spores.

Cohort Trichophoreae Kirchner.

Family Rivulariaceae.

Genus *Calothrix* Agardh

10. *Calothrix thermalis* (Schwabe) Hansgirg; Bornet et Flahault, Revis. des Nostoc., Ann. Sci. Nat. Bot. VII, 3, 1886, p. 3; De Toni 1907, p. 625; Pascher 1925, p. 223, fig. 264; Tilden 1910, p. 268, plate 18, figs. 1-5.

Plate XI, Fig. 10.

Stratum mucilaginous, smooth, more or less expanded, deep olive-green; when dried blue-green. Filaments intricate flexuous, up to 3 mm. long, densely crowded. Sheaths somewhat thick, uniform, transparent, sometimes yellowish at the base. Trichome, up to $13\ \mu$ in diameter at the base, tapering at the apex into a long hair, constricted at the joints near the thinner end. Cells equal to or shorter than the diameter. Heterocysts basal and rarely intercalary, spherical or ellipsoidal.

Habit. On cement walls of drains, intermingled with some other species of blue-green algae. The species seems to be confined to rather warm places. In Europe it has been recorded from hotter places of Bohemia, Austria, Hungary and Italy, in Africa from Algeria (De Toni 1907, p. 626), and in America from Wyoming at the crater of Excelsior Geyser where the temperature ranges between 49-54.5° C; at the Fountain Hotel Geyser Basin it was found to be very common in colder portions of overflows at the temperature of 34° C. (Tilden 1910, p. 268).

Conclusion.

In conclusion I have much pleasure in expressing my indebtedness to the Research fund of the University of Rangoon for the provision of literature some of which has been used in the preparation of this paper.

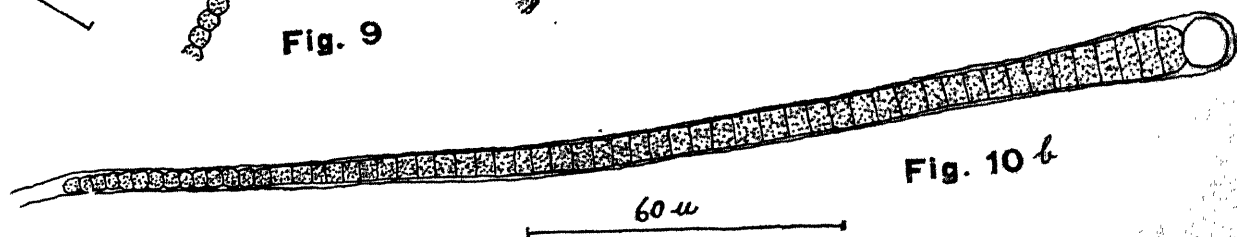
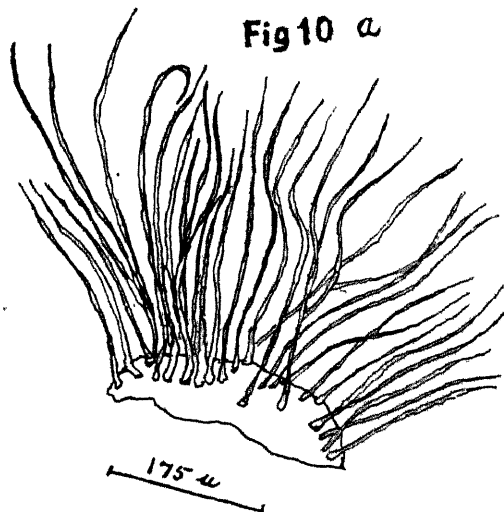
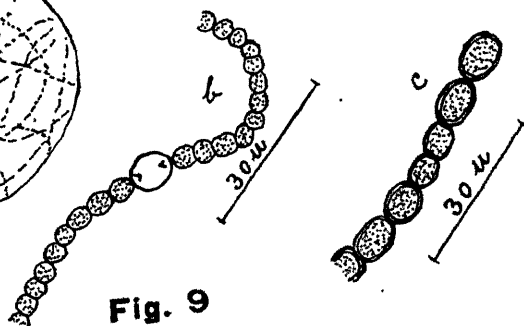
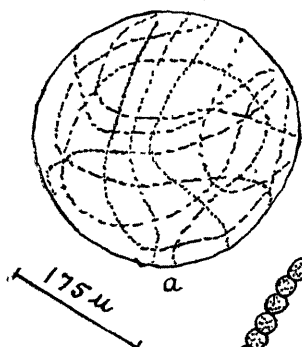
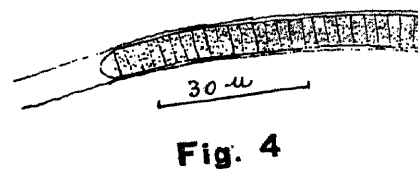
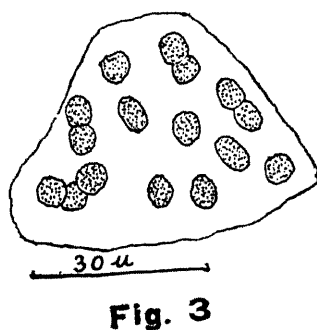
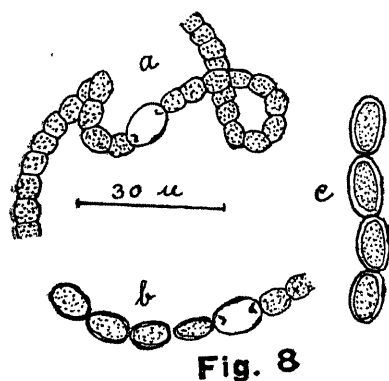
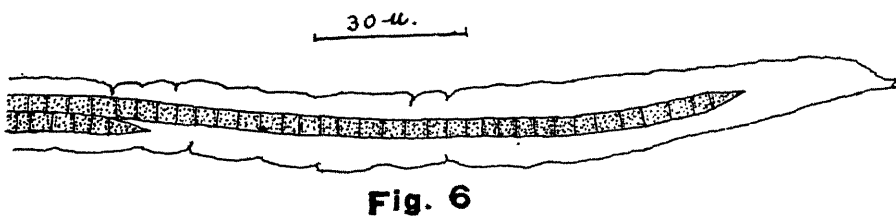
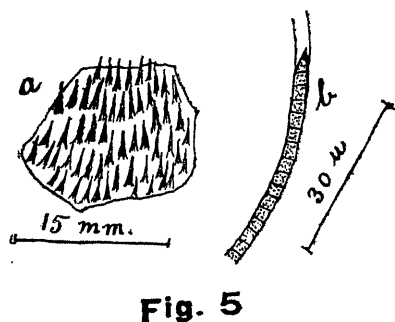
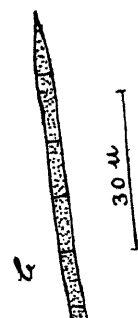
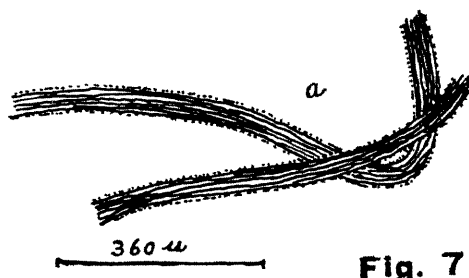
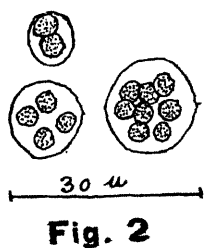
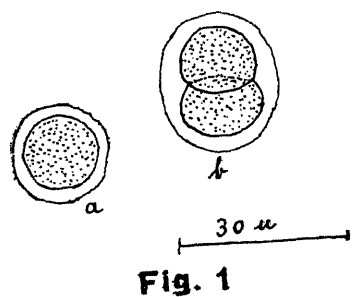
Bibliography.

- Bernard, Ch.** (1908). Protococcacées et Desmidiées d'eau douce recoltées à Java. Department de l'Agriculture aux Indes Néerlandaises, Batavia.
- Ghose, S. L.** (1923). A Systematic and Ecological Account of a Collection of Blue-green Algae from Lahore and Simla. *Jour. Linn. Soc., Botany*, XLVI, 333-346.
- (1926). On Some Myxophyceae from Rangoon. *Jour. Burma. Res. Soc.*, XV, Part III, 244-253.
- Lemmermann, E.** (1910). Kryptogamenflora der Mark Brandenburg. Algen I. Leipzig. 1907-1910.
- Pascher, A.** (1925). Die Süßwasser-Flora Deutschlands, Österreichs und der Schweiz. Heft 12: Cyanophyceae. Jena. 1924.
- Tilden, Josephine** (1910). Minnesota Algae. Vol. I. The Myxophyceae of North America and adjacent regions, etc. Minneapolis, Minnesota.
- De Toni, J. B.** (1907). Sylloge Algarum, Vol. V. Myxophyceae. Batavia.
- Zeller, G.** (1873). Algae collected by Mr. S. Kurz in Arracan and British Burma etc. *Jour. Asia. Soc. of Bengal*, XLII, Part II, No. 3, 175-194.

Explanation of Figures.

PLATE XI.

- Fig. 1. *Chroococcus indicus* Zell., variety *epiphyticus* var. nov. a, single cell; b, 2-celled colony.
- Fig. 2. *Gloeocapsa conglomerata* Kütz.
- Fig. 3. *Aphanocapsa biformis* A. Br. A portion of the thallus.
- Fig. 4. *Phormidium ambiguum* Gom.
- Fig. 5. *Symploca cartilaginea* (Mont.) Gom. a, a portion of the thallus; b, a filament.
- Fig. 6. *Schizothrix arenaria* (Berk.) Gom., variety *non-constricta* var. nov.



GHOSE—THE MYXOPHYCEAE OF RANGOON, II.

- Fig. 7. *Microcoleus delicatulus* W. et G. S. West, variety *attenuatus* var. nov. *a*, threads; *b*, a trichome.
- Fig. 8. *Nostoc muscorum* Agardh. *a*, a trichome; *b*, young spores; *c*, mature spores.
- Fig. 9. *Nostoc microscopicum* Carmichael. *a*, a small colony; *b*, vegetative filament; *c*, spore-forming filament.
- Fig. 10. *Calothrix thermalis* (Schwabe) Hansgirg. *a*, a portion of the thallus teased out; *b*, a trichome.
-

Cyathodium cavernarum Kunze from Burma.

By

LALIT PRASAD KHANNA, M. Sc,
Government College, Lahore.

Introduction.

The genus *Cyathodium* has been differently named by various authors, *Synhymenium* and *Monoslenium* by Griffith and *Riccia* by Dickson. It was in the year 1834 that the name *Cyathodium* was used by Kunze when he described the species *C. cavernarum* from Cuba. For a long time afterwards no serious work was done, except that two more species, *C. aureo-nitens* and *C. foetidissimum*, were described by Schiffner (3). In 1905 Lang made a thorough investigation into the morphology of *Cyathodium* (2). He re-described *C. cavernarum* and *C. foetidissimum*. Up to 1913 his was the only valuable work on the genus. In 1914 Professor S. R. Kashyap described a new species, *C. tuberosum*, from Mussoorie (1). A little later, Stephani described two more species, *C. mexicanum* from Guadalajara and *C. penicillatum* from Mussoorie; the latter probably is the same as *C. tuberosum* Kash. (4).

Last year a few species of *Cyathodium* were sent from Rangoon to Professor Kashyap, who very kindly gave me the privilege of examining them. This paper embodies the result of the investigation. The material was rather insufficient and therefore many details could not be worked out.

General Habit and Structure

The plants are generally found on sandy soil which is well-protected from direct sun-shine. They closely overlap one another and on an average are 0.8 cm long and 0.3 cm broad. They are dichotomously divided, the lobes being oblong in shape. Seen from above, the dorsal surface is perforated here and there by pores. The pores are circular in outline throughout the entire plant, unlike those of *C. tuberosum*. The size of the pore is nearly the same throughout the whole length of the plant; the average size is nearly 134 μ . In structure the pores are like the dorsal pores of *C. tuberosum*.

There is no distinct midrib, but its position is indicated ventrally by the presence of rhizoids and scales. The rhizoids are of two kinds—the thick-walled narrow and thin-walled wide ones, but the former kind do not possess peg-like thickenings. The scales are simple and show no distinction into an appendage and a basal portion. They are simply made up of a row of cells or cell-plates.

KHANNA.—*CYATHODIUM CAVERNARUM* KUNZE FROM BURMA.

Adventitious branches are present in this species (Plate XII, Fig. 1.). The branches are marginal in origin. They have a basal cylindrical portion and an expanded upper portion.

Sex Organs

The plants are monoecious (Plate XII, Figs. 2 & 3.) The male receptacle may be terminal or lateral (Plate XII, Fig. 2); it is sometimes found between the angle of the two lobes which bear female receptacles (Plate XII, Fig. 3).

The mature sporogonium consists of a short foot and a seta consisting of a row of cells (Plate XII, Fig. 6). The wall of the capsule is made up of a single layer of cells. The cells of the upper third of the capsule-wall have thickenings all round (Plate XII, Fig. 5), whereas the cells of the remaining two-thirds have thin walls and in young sporogonia are full of starch grains. At the top of the capsule is the apical disc which projects into it (Plate XII, Fig. 4). At the time of dehiscence the apical disc is thrown off and the sporogonium opens by eight blunt teeth formed by the splitting of the thick-walled upper cells of the capsule-wall. The sporogonium is protected by the calyptra till it is fully ripe. The elaters are like those of *Cyathodium tuberosum* and the spores are darkish-brown. The exosporium is spinous, but the spines are not so numerous as they are on the spores of *C. tuberosum*.

The size of mature capsule is about 400 μ . The spores with the spines are about 63 μ in diameter. The elaters are longer than the diameter of the capsule, and on an average reach the length of 487 μ . They seem to be rather few, as the largest number counted was 20.

The writer concludes on the strength of the following characters that the Rangoon species is *Cyathodium cavernarum* Kunze :—

1. The size of the thallus is the same as that of *C. cavernarum*.
2. Adventitious buds are present
3. The plants are monoecious.
4. The size of the sporogonium is nearly the same in both species.
5. The size of the ripe spore and the elater also corresponds with that in *C. cavernarum*.

The species seems to have a wide distribution in Burma, as Dr. Ghose reports that it is also frequently met with in the Mergui Archipelago, growing in comparatively dark and shaded places.

Literature Cited.

- (1) **Kashyap, S. R.** : Morphological and Biological Notes on new and little known West Himalayan Liverworts. I. *New Phytologist*, XIII, Nos. 6 & 7, 1914.
- (2) **Lang W. H.** : On the Morphology of *Cyathodium*. *Ann. Bot.*, 1905.
- (3) **Schiffner. F.** : Hepaticae in Engler and Prantl's Pflanzenfamilien.
- (4) **Stephanie, F.** : Species Hepaticarum, 1917.

Explanation of Figures.

PLATE XII.

- Fig. 1 : *Cyathodium cavernarum* Kunze. Shows marginal buds (a) and sporogonia (b).
- Figs. 2 & 3 : *C. cavernarum*. Monoecious plants. a, antheridial receptacle; b; sporogonium.
- Fig. 4 : *C. cavernarum*. Apical portion of the capsule, showing the apical disc and spore.
- Fig. 5 : *C. cavernarum*. Capsule-wall, showing thickenings in its upper third part.
- Fig. 6 : *C. cavernarum*. Portion of L. S. of the sporogonium, showing the foot and the seta.

PLATE XII.

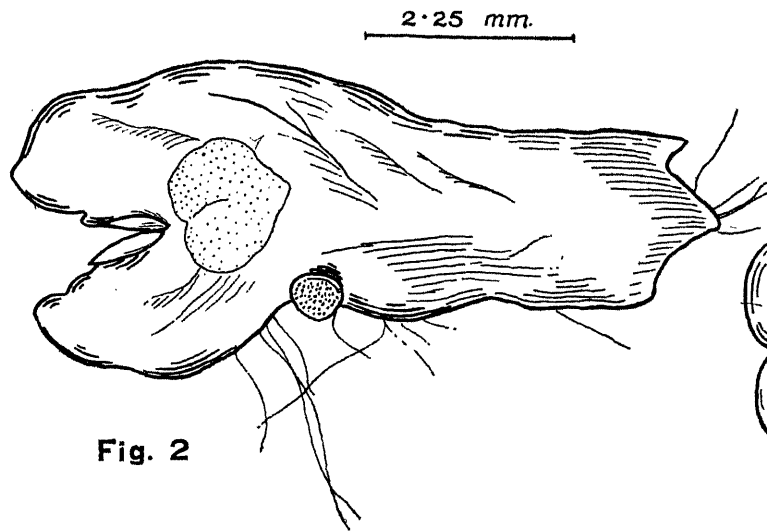


Fig. 2

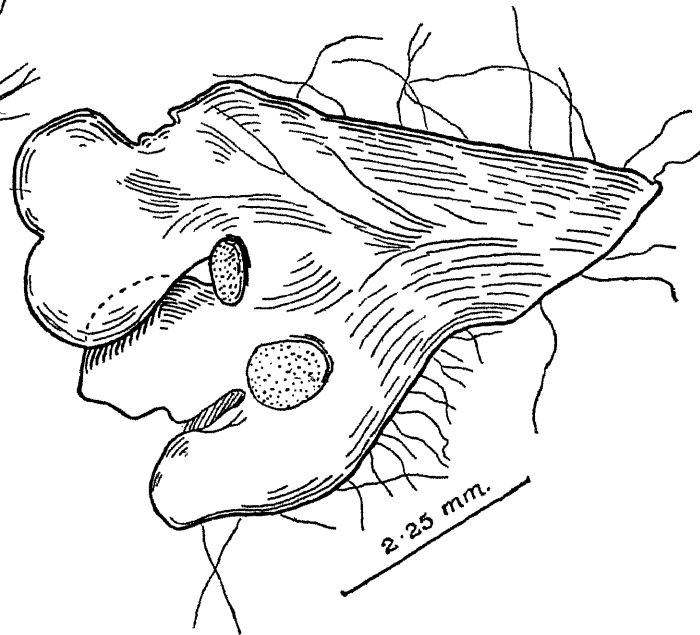


Fig. 3

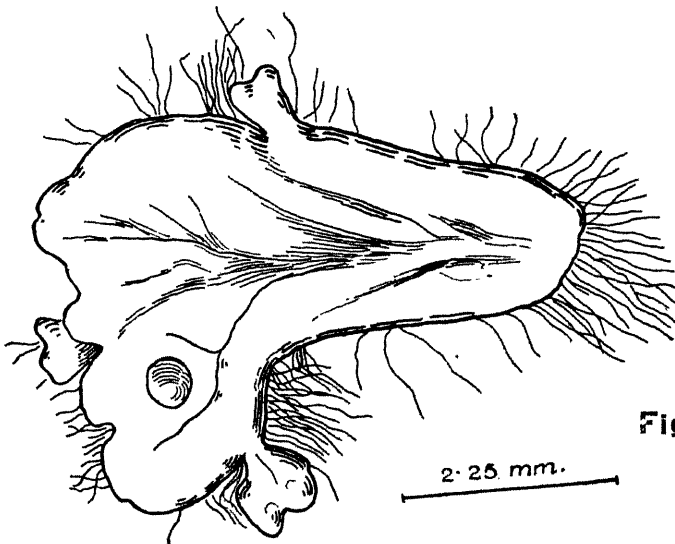


Fig. 1

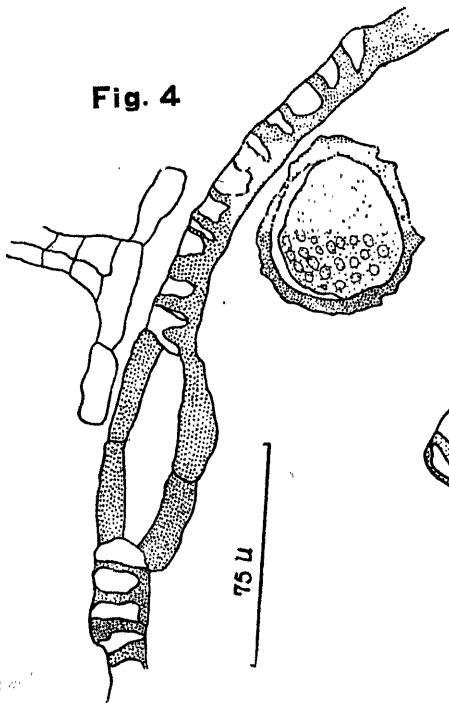


Fig. 4

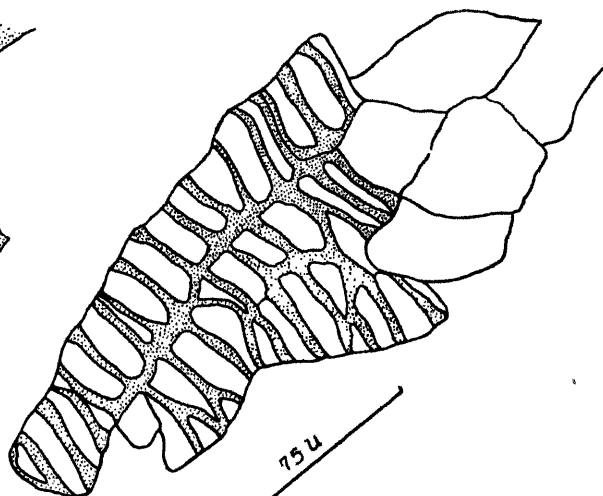


Fig. 5

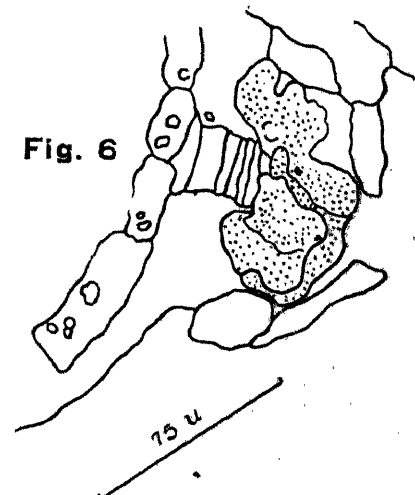


Fig. 6

HYDRO-ELECTRIC DEVELOPMENT

The Economic Factor.

[Based on a lecture delivered to the members of the Engineering Society, University College, Rangoon].

BY

PROFESSOR W. NELSON ELGOOD,
Engineering Department.

University College, Rangoon.

Introduction.

Water-power is one of the chief natural advantages of a country and the development of water-power in civilized countries during recent years is undoubtedly one of the romances of engineering.

A glance at Tables 1, 2, and 3, which have been compiled from figures given in the Chambers of Commerce Atlas, Edition 1925, shows the water-power possibilities of the several countries of the world. While these figures are only approximately correct for certain countries a general estimate of the power available can be obtained.

Continent.	Developed.	Un-developed,
Europe ...	13,123,000	74,935,000
Asia ...	2,027,000	92,863,000
Africa ...	11,000	190,000,000
Australasia ...	124,000	14,466,000
N. America ...	12,868,000	76,358,000
S. America ...	424,000	53,573,000
Total ...	28,577,000	505,218,000

Developed and Un-developed Water-power of Continents in H. P.

TABLE NO. 1.

In arriving at conclusions it must be remembered that potential power is the outcome of climatic conditions combined with topographical

features, and that the continents and countries mentioned cover the temperate and tropical zones and a portion of the arctic zone, and include all phases of temperature and all precipitation factors.

Country.	Developed	Un-developed.	Percentage of Total Developed Power.	H. P. per head of Population.
U. S. A. ...	9,130,000	35,800,000	20.3	0.086
Canada ...	3,227,000	28,850,000	10.0	0.367
Norway ...	1,820,000	10,380,000	14.9	0.687
France ...	2,500,000	6,900,000	26.5	0.064
Sweden ...	1,416,000	7,384,000	16.1	0.238
Switzerland ...	1,490,000	6,510,000	16.6	0.384
Japan ...	1,694,000	4,700,000	26.5	0.030
Spain ...	1,261,000	4,740,000	21.0	0.059
Italy ...	1,450,000	4,050,000	26.4	0.037
Germany ...	1,070,000	280,000	79.0	0.018

Developed and Un-developed Water Power of Chief Countries in H.P.

TABLE NO. 2.

In regard to the figures given in the Chambers of Commerce Atlas it is explained that "whenever possible the estimates are based upon the continuous house-power available during the periods of low water level in reservoirs or rivers. Since, however, it is customary to instal hydro-electric plants capable of utilizing the maximum flow of water available at periods of high water level, the figures both for developed and potential sources of water power might well be doubled. Thus while our estimates show not scarcely $5\frac{1}{2}$ per cent of the world's potential water power has been harnessed for industrial purposes it is probably more correct to assume, that, at the present time, it has only been utilized to the extent of about two to three per cent. It has been estimated that the ultimate develop-

ELGOOD—HYDRO-ELECTRIC DEVELOPMENT THE ECONOMIC FACTOR.

ment of the world's sources of water power, if fully utilized, would be fourfold the amount of the world's present total production of power for industrial purposes, obtained from all sources"

Country.	Power.	Percentage obtained from Water-power.
Sweden ...	1,550,000	91'5
Switzerland ...	1,620,000	91'5
Norway ...	1,960,000	92'4
Italy ...	1,990,000	72'5
Japan ...	3,420,000	49'5
France ...	3,500,000	71'0
Canada ...	3,560,000	90'5
United Kingdom ...	3,980,000	6'3
Germany ...	4,530,000	23'5
U. S. A. ...	33,670,000	27'0

Electric Power of Principal Countries in H. P.

TABLE NO. 3.

Water-power development is now more active than it has been in previous years. Improvements and inventions in transmission and distribution of power by electricity have followed each other rapidly during the past quarter century, and the methods of development of water-power have become standardized. The earning capacity of operating hydro-electric installations has been in the majority of cases, both privately and publicly owned, sustained through periods of acute trade depressions. The earning capacity is reflected in the ease with which money is raised at the present day for capital investment in projected installations. The securities of the greater number of companies have remained firm during the post-war years of depression, and further capital for improvements and extensions has at all times been readily obtained.

The present extensive and growing use of hydro-electric energy is dependent upon the cost factor, which must be lower than that of fuel operated stations, or not higher than that that can be afforded by present

and potential consumers. High tension transmission of electrical energy has enabled power to be transported from its source of development to the site of consumption at a comparatively low cost, and has enabled the cost factor of hydro-electric installations under certain conditions to remain, in general, below the mean level required for economic development.

The problem to be solved in a projected hydro-electric installation is the one contained in the equation involving the terms of capital cost, recurring expenditure and revenue. It must be realised, however, that development may only be possible after combinations of water and other resources have been considered. In India, for example, where during each year there is a dry period of many months which is broken by one or two monsoon periods, irrigation and water-power problems are, in general, united. This country is dependent on stored water, and as its very existence depends upon irrigation, irrigation may have to be considered before any water-power project is involved. Water-power development must at all times give way to irrigation if there is a clashing of their respective claims.

In the following it is proposed to assume that hydro-electric development contains solely the one problem in the economic equation, and that investigation in conjunction with other utility projects is not necessary. It is impossible, here, to consider all cases that can arise, and the author feels that, after a survey of the installations in Canada, United States of America, New Zealand, and several continental countries, the consideration of exceptional cases is not justified in a general treatment of the subject, and that any results obtained from consideration of such cases would lead to deductions of little value. In a large number of cases of combinations of utility projects where one is a hydro-electric installation, this installation can be isolated in the economic investigation, and the factors governing its economic side will be, in the main, similar to those of an installation of a simple nature.

The evolution of design of modern water-power plants has occurred during the past quarter of a century. Previous to this period when the means of economical transmission and distribution of power were not known, water was conducted through channels to independent turbines or wheels located on the sites where power was required. The standard design of to-day sub-divides a scheme into as few power units as possible, usually three to five, these units being installed in one power house. The maximum permissible head is utilized and the power house is located as near to the impounded water, or other source of supply, as this condition and the topography of the country will allow. The water may be conducted to the power units by pressure pipe or pressure tunnel, or the power house may be located in the dam or beside the spillway. The consumers of the power may be distant over two hundred miles from the power house,

ELGOOD—HYDRO-ELECTRIC DEVELOPMENT THE ECONOMIC FACTOR.

The modern development of hydro-electrical schemes appears now to be so perfected that it is doubtful if any revolutionary changes in the recognized standardized lay-outs can occur. Improvements in transmission and distribution will be made. The efficiencies of modern turbines of standard designs have reached 90 to 93 per cent., and to the writer it seems doubtful if much higher efficiencies can be obtained; mechanical and other friction must absorb a maximum of at least 5 per cent.

Hydro-electric projects are usually classified according to the head of water utilized. The classification given by Professor A. H. Gibson shown in Table No. 4 has been in general use during recent years.

Classification.		Head in Feet.	Power unit.
Low Head	...	1½ - 80	Reaction Turbine.
Medium Head	...	80 - 500	Reaction Turbine and Impulse Wheel.
High Head	...	500 - 5000	Impulse Wheel.

TABLE NO. 4.

Low head developments consist, in general, of a dam which creates a reservoir where the water is required to be utilized. The conveyance of the water to the power units is over a short distance, the amount being large. The development consists of the dam and its spillway, the forebay, the intake and the tailrace. Medium and high head developments consist of a diversion dam with an intake at the head waters. The water is led through channels or tunnels to the forebay and thence by penstocks to the power house. It must be noted, however, that the conductor may, for its total length, be of the enclosed pressure design.

Modern turbine design has advanced rapidly within recent years and manufacturers can produce units capable of use with heads varying from 8 to 800 feet, the units being set by the size and weight of the component parts that have to be transported. The units of power are between 60,000 H. P. at about 300 feet and 15,000 H. P. at 150 feet (1) For heads above 500-800 feet the Impulse Wheel is now used, the maximum designed horse-power being about 15,000.

It is realized that the above generalisations are to a certain extent of a fundamental nature, but economical design is based on a sound appreciation of fundamental principles. Although these principles have not

(1) J. R. Freeman, Vol II, Page 372. Transactions of the First World Power Conference,

been enumerated or described in full it is hoped that an understanding of the essential factors of modern development as seen by the author will be obtained. An introduction to a subject of this nature must necessarily be only a framework which gives to a beholder an impression of the form of the completed structure. The problem of hydro-electric development from the economic viewpoint involves factors both known and unknown. None can be disregarded. The reduction to zero of the number of unknown factors is the duty of the engineer, and in studying a project an attempt is made to achieve this end. Economy in lay-out implies simplicity and strength, in addition to maximum hydraulic efficiency obtained by minimum water disturbance and distortion, and maximum machine efficiency consequent upon correct design and good workmanship. Efficiencies in electrical transmission as well as in generation and transformation are high at the present day but there is possibility of higher efficiency being obtained by the general use of direct current of high voltage. Such improvements cannot, as far as can be seen at present, affect the lay-out of projects.

It is proposed in the following to analyse the capital costs of complete installations representing average practice together with operating costs. For convenience capital cost will be sub-divided into the cost of completion of the scheme up to the low tension switchboard in the power house, and into the cost of transforming, transmitting, and re-transforming. The former will be termed *the construction cost* and the latter *the transmission cost*.

The Construction Cost.

The capital cost of constructing a hydro-electric installation up to the low tension switchboard in the power house is naturally sub-divided into the cost of civil engineering work, and the cost of purchasing and installing the hydro-electric machinery with its accessories. The percentage ratio of each of these costs to the construction cost is dependent upon the extent to which the topography of the country favours the lay-out, the quantity of water, the regularity of flow, and the price of labour and material. Investigations show that the cost of civil engineering work may vary from 50 to 80 per cent, of the construction cost, and the cost of machinery from 50 to 20 per cent,

ELGOOD—HYDRO-ELECTRIC DEVELOPMENT THE ECONOMIC FACTOR.

Name of Project.	Oak Springs.	Lockit.	Mecca.	White Horse.	Metolius.	Jefferson Creek.
Power Head in feet	32	70	90	138	210	400
Flow used for estimate in C. F. S.	3700	4500	3400	3700	3400	1060
Total height of Dam in feet ..	50	94	110	122	236	20
Length of Crest in feet ..	480	720	650	440	420	90
Length of Spillway in feet ..	200	225	160	160	125	80
Masonry in Dam in cubic yards	15,310	56,014	64,787	56,762	183,000	1000
Forebay Excavation in cubic yards	12,000	.....	.....	10,000	8,000	.....
Forebay, Concrete Walls in cubic yards	1,500	.....	.....	2,500	1,500	.....
Division Line, Dimensions of Canal in feet	.....	.....	.....	260,000	.....	41,000 by 30 by 8
Division Line, excavation for canal in feet	.....	.....	.....	.....	.....	.....
Division Line, Dimensions of Tunnel in feet	.....	.....	.....	.....	.....	.....
Number of Head gates ..	10	10	8	.....	300 by 15 by 20	.....
Number of Relief Valves ..	10	10	8	10	10	4
Dimension of Penstocks ..	800 ft. by 12 ft. dia.	1,650 ft. by 11 ft. dia. by $\frac{1}{8}$ in.	1,400 ft. by 12 ft. dia. by $\frac{1}{8}$ in.	1100 ft. by 11 ft. dia. by $\frac{1}{8}$ in.	500 ft. by 12 ft. dia. by $\frac{1}{8}$ in.	1,000 ft. by 10 ft. dia. by $\frac{1}{8}$ in.
	12 ft. dia. by $\frac{1}{8}$ in.	1,450 ft. by 10 ft. dia. by $\frac{1}{8}$ in.	600 ft. by 11 ft. dia. by $\frac{1}{8}$ in.	600 ft. by 10 ft. dia. by $\frac{1}{8}$ in.	500 ft. by 10 ft. dia. by $\frac{1}{8}$ in.	1,000 ft. by 2 ft. dia. by $\frac{1}{8}$ in.
						1,000 ft. by 8 ft. dia. by $\frac{1}{8}$ in.
						39,363
Brake Horse Power 80 % Efficiency	10,824	28,630	27,760	47,200	64,960	4
Number of Turbines ..	10	10	8	10	10	4
H. P. of Turbines ..	1,085	2,860	3,470	4,720	6,496	9,091
Output Generators, K. W. ..	750	2,500	2,500	3,500	5,000	7,000
Percentage cost, Dam ..	3,251	35-38	42-00	24-99	40-06	0-86
Percentage cost, Forebay ..	4-26	.....	0-79	1-89	0-72	1-07
Percentage cost, Division Line	.....	.....	.....	18-02	1-22	53-00
Percentage cost, Headgates, Penstocks, etc.	6-49	8-21	7-21	3-77	1-56	4-35
Percentage cost, Power House and Draft Tubes ..	5-57	7-48	8-19	8-53	6-53	5-80
Percentage cost, Quarters, Water Supply etc.	3-99	2-02	2-77	1-70	0-94	1-50
Percentage cost, Engineering, Contingencies and Interest during construction	17-23	17-41	19-98	21-26	18-20	20-00
Percentage cost, Civil Engineering Works...	70-05	70-50	80-94	80-21	69-23	86-58
Percentage cost, Hydro-Electrical Machinery	29-95	29-50	19-06	19-79	30-77	13-42

Table No. 5 contains the analysis of six projected hydro-electric installations. The estimated costs of these installations are contained in Bulletin 5, prepared in the Oregon State Engineer's office. They are quoted by Messrs. Rushmore and Lof in "Hydro-electric Power Stations". Analysis of the items of expenditure in civil engineering and machinery costs have been made and the percentage ratio of the costs of the main items to the construction cost computed. Great care was taken in the Oregon State Engineers office in preparing the estimates, and there seems no doubt that the deduction that it has been possible to make here would correspond with actual results were the projects completed². The costs of hydraulic and electrical machinery were based on estimates of independent manufacturers, and the unit costs selected for the purpose of estimating the costs of the several items of the civil engineering works represented average practice of good workmanship. Horizontal turbines in pairs are embodied in the schemes, and the electrical equipment includes 3-phase generators, 2300 volts, 60 cycles.

From the results obtained it is seen in Table No. 5 that the percentage ratio costs of civil engineering work to construction cost vary from 69.23 to 86.23 and the percentage ratio costs of hydraulic and electrical plant to construction cost vary from 30.77 to 13.42. Allowances in both cases have been made for engineering and contingencies and for interest during construction as shown in the Bulletin No. 5 referred to above.

It should be noted that the costs of railroad re-alignment in the Oak Springs, Mecca, and White Horse Rapids projects shown as items of expenditure extra to those of civil engineering work and machinery have been omitted in computing the percentage ratios. The omissions have been made after deliberation, and consequent upon a desire to consider representative projects. It is highly probable that were the costs of these re-alignments distributed among the civil engineering and the machinery costs very little difference would be obtained from the figures given in Table No. 5.

In Low Head installations when the power house is located near the spillway the ratio costs of machinery are higher than those obtained for the Medium Head installations examined above. In Table No. 6 is contained the analysis of four low head projects, the estimates for which are quoted by Professor A. H. Gibson in "Hydro-Electric Engineering" Volume II, from paper No. 3, Volume I "Water-Power Resources,"

2. Note.—The author has been unable to ascertain to-date if any of the schemes have been completed.

ELGOOD—HYDRO-ELECTRIC DEVELOPMENT THE ECONOMIC FACTOR.

Department of Interior, Ottawa. As is readily seen, the amount of civil engineering work to be completed is comparatively small, the percentage ratio costs of the dams and power houses emphasizing this point.

Name.	Pine Falls.	Lower Seven Sisters Fall.	Slave Falls.	Upper Pinawa.
Power available at 75 % over all efficiency	63'100	37'900	26'600	12'300
Head, in feet ...	37	37	26	18
Percentage cost Dams and Equipment...	8'65	19'57	11'91	6'55
Ice Sluices ...	1'39	2'52	1'51	1'96
Power Station and Equipment ...	21'71	19'90	22'94	30'07
Hydraulic Installation ...	20'41	15'81	15'43	14'07
Electrical Installation ...	27'20	21'13	22'24	21'07
Dockage Facilities ...	1'16	...	...	...
Permanent Quarters ...	0'57	0'59	0'64	0'78
Contingencies ...	8'14	8'24	8'23	8'21
Engineering and Inspection ...	4'46	4'55	4'55	4'56
Interest during Construction ...	5'15	5'22	5'21	5'22
Flooding Damages ...	1'16	...	...	...
Head Race ...	...	...	3'73	...
Railway ...	...	2'47	3'61	7'51
Totals ...	100'00	100'00	100'00	100'00
Percentage cost of Construction ...	43'8	54'3	53'9	58'4
Percentage cost of Machinery ...	57'2	45'7	46'1	41'6

TABLE NO. 6.

Size of Installation.	Number of Installations.	Installed Turbine H.P.	Civil Engineering Works. Per cent. of construction cost.	Machinery. Per cent of construction cost.
Up to 200 H.P. ...	55	5'896	62'4	37'6
200 to 499 ...	43	13'958	62'3	37'7
500 to 999 ...	39	25'439	65'6	34'4
1,000 to 4,999 ...	58	126'286	69'9	30'1
5,000 to 9,999 ...	9	59'000	74'9	25'1
10,000 to 19,999 ...	4	51'300	81'4	18'6
20,000 H. P and over ...	7	305'825	77'0	23'0
Totals and Averages ...	215	587'704	73'8	26'3

TABLE NO. 7

Table No. 7 shows the percentage ratio costs of civil engineering works and machinery for 215 Swedish installations varying in

horsepower available from under 200 to over 2000. These figures have been obtained from "Power-House Design" by Sir John F. C. Snell, and emphasize how, in this practice, the two ratio costs vary with the sizes of the installations. Sir John Snell points out that further analysis of these 215 projects shows that the power house represents, on an average, 24.5 per cent. of the cost of civil engineering works. The electrical machinery and equipment represent an average of 67 per cent. of the machinery costs, and the turbines the remaining 33 per cent. Under the conditions prevailing in Sweden the average percentage ratio costs to construction costs are:—

Power house	....	....	18'0
Other civil engineering works	....	....	56'0
Electrical equipment	....	....	17'5
Turbines	....	....	8'5

That is to say civil engineering works account for an average of 74 per cent. of the construction cost and hydro-electric machinery an average of 26 per cent.

Description	...	...	A British installation.	Canadian Development on Bow River.	...
Reference	...	...	Rushmore and Lof. in "Hydro Electric Power Stations."	A. H. Gibson in "Hydro Electric Engineering."	Rushmore and Lof. in "Hydro Electric Power Stations."
Size of installation	...	...	200,000 H. P.	24,500 H. P.	4,500 H. P.
Head in feet	...	...	200	170	215
Percentage cost of pressure tunnel	...	...	12'15	14'95	...
" " river division	...	...	12'15	...	...
" " conduct	...	...	...	19'40	14'80
" " dams	...	...	37'75	22'04	43'60
" " forebay and penstocks	...	...	6'90	10'08	9'05
" " Power house	...	...	3'42	4'65	3'32
" " Engineering contingences and interest during construction	...	...	23'25	10'95	15'81
" " Accessories	...	...	...	...	9'97
Percentage cost of Civil Engineering works	...	...	83'47	82'07	91'95
Machinery	...	...	18'53	17'93	8'05

TABLE No. 8.

Table No. 8 contains the analysis of a number of different types of installations which vary in design and cover a range of lay-outs

ELGOOD—HYDRO-ELECTRIC DEVELOPMENT THE ECONOMIC FACTOR.

representative of modern practice. The results obtained are as are to be expected from the foregoing.

Information covering actual cost of completed hydro-electric installations is scarce, and it is impossible for this reason, and in view of the wide price fluctuations in all parts of the world to compute unit costs of installations. An attempt has been made solely to obtain ratio costs that are of value in considering the economic aspect of projects, but here again difficulties arise, and it is possible that the ranges of ratio costs obtained do not represent the utmost limits. Exceptional cases, not representative of average design, will give wide variations but it is doubtful if results obtained from these would be of any value for a general survey such as is being made here. The estimation of the construction cost is readily divided into the usual divisions of Development Costs, Physical Costs and Overhead Costs. All main items of expenditure must bear their proportion of overhead costs, and designs, if representative of economic practice, cannot vary in the ratio costs of the main items by wide margins, for lay-outs are now standardized and the factors governing the economic side are known.

Transmission Cost.

The transmission of electricity over a long distance adds considerably to the capital cost of a hydro-electric installation. The cost of transmission is dependent upon both the distance and the peak load, and the proportion of the cost of power due to transmission may vary from 20 to 85 per cent. Curve No. 1 shows the proportions obtained in the Niagara System of Canada. The curves have been plotted from figures quoted from Mr. M. E. M. Kensit in the "Electrical Times," January 2nd, 1919, by Professor A. H. Gibson in "Hydro-Electric Engineering," Volume II. In this system 115 municipalities are served and the distance covered is 251 miles. The average curve drawn shows approximately the variation of the portion of cost of power due to transmission with the distance transmitted for this system. A return will be made later to power transmission cost.

Voltage of transmission, kilovolts	...	66	150
Supports	...	Wood poles	Steel towers.
Conductors	...	Copper	Copper
Percentage cost of right of way	...	20'16	24'67
" " poles	...	7'48	...
" " cross arms	...	2'32	...
" " conductors	...	26'09	20'67
" " insulators	...	12'44	8'20
" " guy wires and archors	...	0'41	...
" " hardware	...	4'11	0'34
" " steel towers	...	...	20'9
" " cement	...	...	0'23
" " other materials	...	1'65	...
" " labour	...	6'24	6'70
" " overhead expenses	...	19'10	18'70
Cost of right of way, per mile, Rs.	...	3,750	15,000

TABLE NO. 9.

Mr. Ernest V. Pannell in "High Tension Line Practice" has summarised estimates for a 150 kilovolt steel tower transmission line and a 66 kilovolt wooden pole transmission line. The percentage ratio costs of the different items shown in Table No. 9 have been obtained from these figures.

The cost of distributing the power produced in the generating station often amounts to several times the cost of production when the transmission has to be made over long distances at high voltages. The stepping down again involves large expenditure, and it is the cost of transmission, transforming and distributing that make the cost of power to a consumer so large in comparison to the actual cost of production at the bus bars in the generating stations.

Development Name	...	Pine Falls	A British instal- lation.
Length of transmission in miles	...	64	35
Transmission Voltage	...	66,000	...
Percentage cost of Transformer House at falls (A)	...	5.8	...
Percentage cost of Transformer House at Distribution end (B)	...	5.3	} 55.0
Percentage cost of Transformers, Switches, wiring in A	...	25.0	
Percentage cost of Transformers, Switches, wiring in B	...	22.4	
Percentage cost of Transmission Line	...	41.5	
Reference	...	A. H. Gibson in Hydro, Electric Engineering.	A. H. Gibson in Hydro, Electric Engineering.

TABLE NO. 10.

In Table No. 10 is contained information regarding the transmission cost of two installations. It is doubtful owing to factors of distance and peak load, if much purpose can be served in analysing the transmission costs of installations. Hydro-electric development demands the concentration of large generating plants at sites which are selected after topography, flow, etc. have been considered. Progress in industrial centre. has caused or, has necessitated, the installations of these large plants. The cost per K. W. installed is less in large generating stations than in small ones, but in designing an installation full regard must be made to transmission cost which will determine if the economic radius of supply has been surpassed or not. It is essential to realise that the economic distance of transmission does exist for all sizes of transmission. The transmission of low load factor units over long distances is seldom economically possible and it is seldom that a suitable site is found for a power station near to the point of densest load. The possibility of splitting up the maximum load into two or more components and of

ELGOOD—HYDRO-ELECTRIC DEVELOPMENT THE ECONOMIC FACTOR.

introducing a comprehensive system of supply from two or more stations cannot receive consideration here. It is only possible, here, to consider the case of a well placed single station and to assume that economic transmission to the site of distribution is possible.

It is not possible, as far as can be seen, to obtain a connection between the capital cost of installing a transmission system, and also the operating costs with the voltage. There is no doubt, as Mr. E. V. Pannell points out, that below 100 kilovolts an increase of voltage does give an economic saving in the conductor. Transmission distance is not the main factor that governs the choice of voltage; it is the capacity in kilovolt amperes. Increases in voltages upto and perhaps surpassing 220 kilovolts have been made possible, not because of the transmission distance, but because the demand for power has been great. The cost of ultra-high voltages cost more in terms of voltage than do the high voltages and it is only when a considerable block of power is required by consumers that they are possible.

Mr. Pannell in "High Tension Line Practice" has made a complete investigation of the economics of high tension line practice, and he is able to deduce the conclusion that the scientifically designed modern high tension transmission line is cheaper per kilowatt hour than its "primitive predecessors." The transmission line is now one of the most important elements of a hydro-electric installation, and its design offers difficulties that engineering science is only beginning to make overcoming possible.

Curve No. 1 has been plotted from figures published by the commission mentioned in 1916. From the annual balance sheet for this year it is found, according to Professor Gibson, that for the undertaking as a whole, the total cost of transmission amounts to 51 per cent. of the cost of the power sold in bulk. Professor Gibson quoting Mr. M. E. M. Kensit also points out that in a western Canadian installation in which 14,500 K. W. is transmitted 77 miles at 66,000 volts, transmission costs amount to 47 per cent. of the cost of power delivered. Here the total line loss was 13 per cent. and the load factor 46 per cent.

In the estimates of the British installation shown in Table No. 8 the transmission cost accounts for 17.6 per cent. of the total capital cost and the construction cost the remaining 82.4 per cent. Transmission is over a distance of 35 miles. In the Pine Falls Development included in Table No. 6 transmission cost accounts for 22 per cent. of the total capital cost and construction cost 78 per cent. Here the transmission distance is 64 miles and the voltage 66,000; six 6000 K. W. 6600—66,000 transformers are embodied in the scheme for the generating station equipment and corresponding provision with an estimated line loss of 10 per cent. is made at the distributing end.

Cost of Hydro-Electric Power.

In hydro-electric installations capital charges usually account for the greater proportion of the cost of energy. These charges which include interest on capital and all other fixed charges account for 66 per cent. of the total cost of power. Fixed charges do not vary, of course, with output. The remaining 34 per cent. of the total cost does vary to a certain extent with output, but these operating costs include the comparatively heavy item of depreciation. Professor A. H. Gibson gives the following percentages on the first cost of the several items of an installation as fair annual contributions to the depreciation fund :—

Civil engineering works	....	....	4'0
Pipe lines and sluice gates	....	....	2'5
Electric generators, transformers and switch gear			4'0
Hydraulic turbines and governors	....	....	4'5
Transmission lines	{ Towers	....	3'0
	{ Cables	....	5'0
	{ Insulators	....	10'0
Operating machinery in power house, including cranes, hoists, etc.	....	....	5'0

The sinking fund method of covering depreciation is probably better applicable to public utility installations, and the amounts to be set aside annually can be computed from the assumed lives of the several items included in the installation using the governing rate of interest. Messrs. Rushmore and Lof give the following figures in years as representing the average lives of these items :—

Dams, masonry	....	....	50'0
Pipe lines, iron	....	....	30'40
Pipe lines, wood, stave	....	....	15'25
Power house building, fireproof	....	....	50'75
Waterwheels	....	....	20'0
Generators	....	....	20'0
Transformers	....	....	20'0
Switching equipment	....	....	12'15
Miscellaneous auxiliaries	....	....	10'0
Transmission lines, steel towers	....	....	25'30
Transmission lines, wood poles	....	....	15'0
Underground cable system	....	....	20'25
Service transformers	....	....	15'0

The operating costs as mentioned above vary with the output and therefore with the load factor, but they do not vary directly. A comparison of operating costs of fuel operated stations with hydro-electric stations is interesting in so far that the fundamental difference in the economics of these two types of power stations is instantly apparent. In steam plants fixed charges are usually much lower than in hydro-electric installations. A curve showing the variation of operating costs

ELGOOD—HYDRO-ELECTRIC DEVELOPMENT THE ECONOMIC FACTOR.

with station capacity is given in Curve No. 2. This curve is obtained from figures given by Messrs. Rushmore and Lof. It must be remembered, however, that the figures are only an approximate representation of what might be obtained. Fluctuations in costs of labour and supplies in different countries makes estimation of percentage ratios impossible.

Dividing, as before, the total capital cost into operation cost and transmission cost the following figures give the average percentages of the two costs obtained in general practice.

1. *Annual operating costs of installation upto low tension switch board in power house as percentages of construction costs.*

Charge for depreciation, repairs and maintenance of engineering works and machinery	....	3.5
Interest on capital outlay, say	....	6.0
Charge to cover all other working costs	....	4.0
		<hr/>
Total		13.5

2. *Annual operating cost of transmission from low tension switch-board in power house to distribution low tension switchboard as percentages of transmission cost.*

Charge for depreciation, repairs and maintenance of engineering works and installations	....	5.9
Interest on capital outlay (say)	....	6.0
Charge to cover all other working costs	....	3.0
		<hr/>
Total	....	14.0

It is understood that the above figures can only represent average practice. They, however, serve as a good guide in indicating the annual commitments of an installation and allow an estimate of the actual cost of power to the consumer to be made. Before, however, this actual cost can be made the costs that must be added to the cost of power at the terminal station must be completed. This computation involves the fixed charges and operation costs of the motors and equipment installed by the consumers, and a consideration of the peak load and the diversity factors.

It is not possible, however, to consider here, the cost of power to the consumer, the factors requiring consideration vary to too great an extent with individual installations, and no results of value could be obtained. The figures obtained in the above analysis covering capital and operating costs up to the low tension switchboard in the terminal station cover the economic side of an installation providing the length of transmission is within the economic radius.

Conclusion.

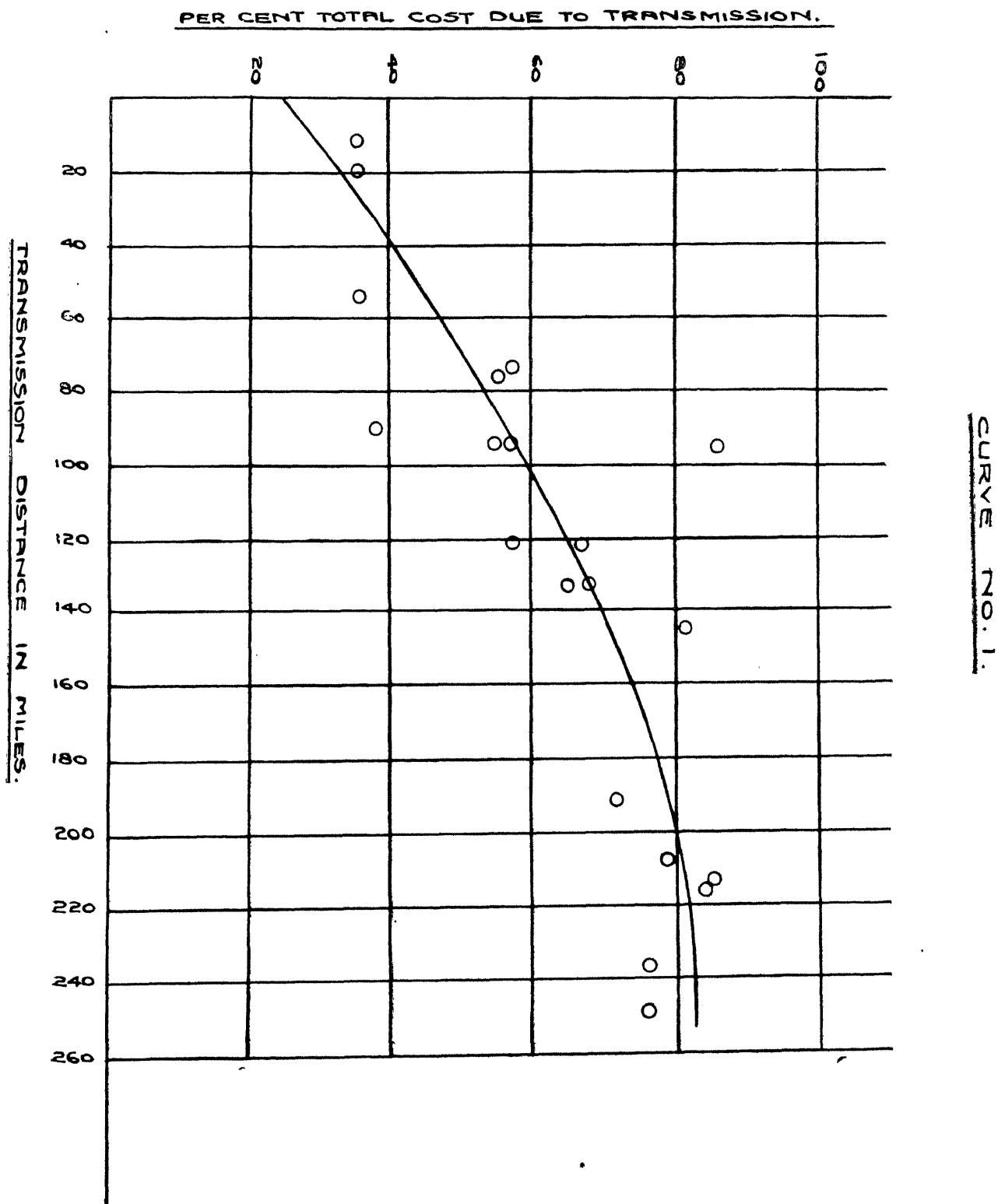
The utilization of water-power for commercial purposes is dependent upon the three considerations mentioned directly below :—

1. The construction cost which includes the purchase of water rights, the cost of civil engineering works and the cost of the hydro-electric machinery.
2. The transmission cost which includes the cost of right of way, the erection of the transmission line, and the cost of the electrical installations.
3. The cost of the generation of power compared with those of full operated estations.

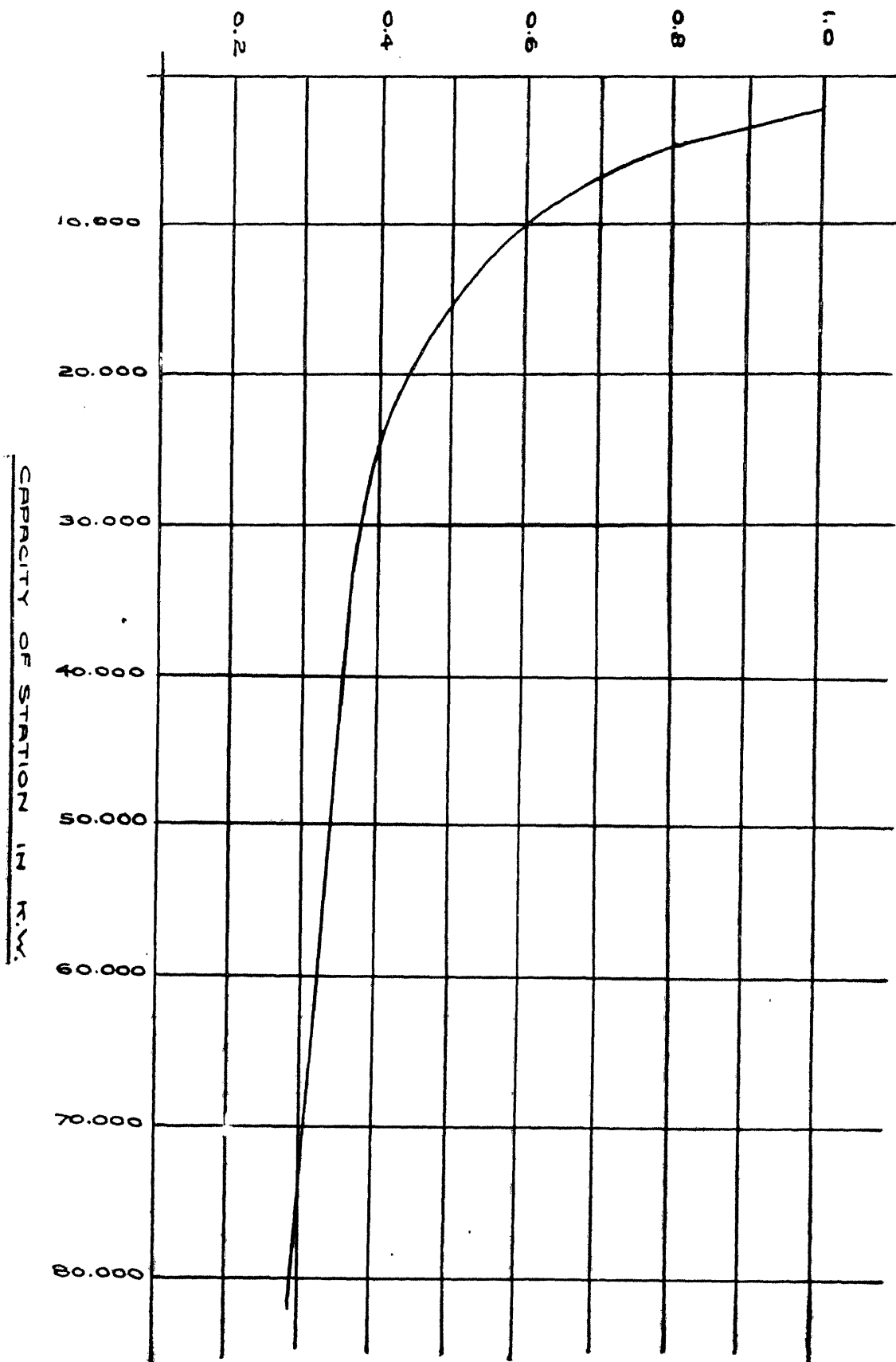
No consideration has been given in this paper to the economic lay-out of installations, or to the design of hydro-electrical plant. The discussion has been confined to those factors which govern the economic aspect of a project. Included in these factors are the proportions of the capital cost borne by the costs of construction and transmission and the operation costs. The application of Williams' economic equation to a proposed installation is essential before expenditure is made on a detailed survey for the lay-out of works. Three of the terms must be known before the fourth can be computed. Percentage ratio cost indicate the lines along which economic investigation can be made. No purpose would be served by including here particulars of unit costs under the different items of expenditure as prices which would have to be obtained from installations widely separated fluctuate to too great an extent. Comparisons of costs of completed schemes in different parts of the world give variations within such wide margins, even if adjustments for fluctuations in rates of exchange from time to time be made, that the writer has been forced to confine himself to percentage ratio costs and to determine if such do lie within limits narrow enough to be of use.

The figures obtained emphasise the costly civil engineering works that have to be completed in all cases except in very low head installations, and in all examples selected it has been assumed that the best locations or all works have been selected. It is not within the scope of this paper to consider the economies of location and design of works.

In conclusion the writer wishes to emphasise the danger of applying costs obtained from installations that have been constructed. Percentage ratio costs considered in conjunction with local rates will, it is believed, allow of the economic aspect of a project being fully analysed, and will permit of a discussion being made covering the advisability of making a detailed location survey.



OPERATING COSTS ASSUMING THAT
FOR 2,500 K.W. CAPACITY IS UNITY.



CURVE NO. 2.

7/21/92

"A book that is shut is but a block"

CENTRAL ARCHAEOLOGICAL LIBRARY
GOVT. OF INDIA
Department of Archaeology
NEW DELHI.

Please help us to keep the book
clean and moving.
